GEO Engineering, Inc.
150 Mineral Spring Drive
Dover, New Jersey 07801
Phone (201) 361-3600
FAX (201) 361-3800

LETTER OF TRANSMITTAL

Date:	7/30/97	Job No.:	94039.00 T1
Attention:	Joseph J. Nowak		
Re:	Hexcel Corporation		
	Lodi Borough, Bergen County, NJ		
	ISRA Case No. 86009		

To: NJDEP-BEECRA
401 East State Street
Trenton, NJ 08625

WE ENCLOSE THE FOLLOWING:

VIA: ☐ Courier /Hand Delivered ☒ Overnight Express ☐ First Class Mail ☐

COPIES	DATE	DESCRIPTION
3	7/30/97	Progress Report for the second quarter of 1997
3	July 97	Summary of Historical Ground Water Data
3	July 97	Summary of Historical Soil Data

Remarks:

SIGNED: Marjorie A. Piette
Marjorie A. Piette

COPY TO: A. William Nosil
Edward A. Hogan, Esq.

If enclosures are not as noted, kindly notify us at once.

GEO Engineering

150 Mineral Spring Drive
Dover, New Jersey 07801
201 361-3600 FAX 361-3800

July 29, 1997

Joseph J. Nowak
New Jersey Department of Environmental Protection
Bureau of Environmental Evaluation and Cleanup Responsibility Assessment
401 East State Street, CN 432
Trenton, NJ 08625

SUBJ: **Hexcel Corporation**
Lodi Borough, Bergen County, New Jersey
ISRA Case No. 86009
GEO Project No. 94039

Dear Mr. Nowak:

On behalf of Hexcel Corporation (Hexcel), the following is the progress report of activities carried out during April, May and June of 1997. This quarterly report is prepared in accordance with the Industrial Site Recovery Act (ISRA) requirements for the former Hexcel facility in Lodi, New Jersey.

The following topics are discussed in this progress report:

1. Regional Context

   a) Soil Evaluation
   b) Ground Water Evaluation
   c) Off-Site Investigation

2. Ground Water/DNAPL/LNAPL Monitoring

   a) Quarterly Monitoring
   b) Monthly Monitoring

3. Product Recovery Program

   a) DNAPL Recovery
   b) LNAPL Recovery

4. Ground Water Treatment System

5. Sediment Sampling

6. Waste Disposal Documentation

7. Schedule and Cost Estimates

1. Regional Context

Regional information is being developed, by others, that will affect Hexcel's remedial approach. In regard to future use of the property, we understand that the Town of Lodi has been conferring with the NJDEP and that both parties are in agreement that a Brownfields redevelopment of this area is desirable and likely. Also, the neighboring Napp Technologies, Inc. (Napp) facility is undergoing an ISRA investigation; the results of this investigation are not yet available.

Hexcel foresees that remediation of its property needs to be compatible with the actions of others in the area and needs to support a regional solution for the whole area that will allow redevelopment. Hexcel needs to develop its own long-term remedial program within the context of the region's environmental and development issues and plans. Until the additional information has been developed on historical data, neighboring cleanups, and future site usage, Hexcel will have insufficient information to develop its long-term remedial strategy. However, during this interim time, Hexcel will continue its existing monitoring program, has submitted reports of its own historical soil and ground water data, and will review regional data and plans as they become available.

1a. Soil Evaluation

While awaiting regional information, Hexcel has organized its historical soil data in preparation for evaluation of the data within the context of regional concerns. On July 30, 1997, Hexcel sent to the NJDEP a report that tabulates, organizes, and summarizes the results of historical soil data collected at the site.

1b. Ground Water Evaluation

On July 30, 1997, Hexcel also submitted to the NJDEP a report organizing and summarizing its ground water data.

1c. Off-Site Investigation

Hexcel is aware that Napp has installed and sampled ground water monitor wells on the Napp property. We received a copy of the Napp report in mid-July and Hexcel is reviewing the Napp data to evaluate whether there is a need for additional monitoring by Hexcel on the Napp property as the NJDEP has requested. Hexcel is also reviewing additional information from Napp's reporting to the NJDEP before evaluating the need for addressing the off-site soil testing referenced in the NJDEP's March 12, 1997 letter.

We have received permission to access the U.S. Army Corps of Engineers (Army Corps) monitor well MW-08 which is located across the Saddle River from the Hexcel

site. We have also received permission in writing from the property owner. The Army Corps gave us instructions on how to access the well in a letter dated July 14, 1997. In accordance with the access agreement, we are coordinating with the property owner to schedule access to the well. We will be able to take measurements and survey the well soon.

2. Ground Water/DNAPL/LNAPL Monitoring

This section includes the results of quarterly monitoring performed in April 1997 and monthly monitoring performed in May and June 1997. Modifications to the NJDEP-approved "Groundwater/DNAPL/LNAPL Monitoring Plan" prepared by Killam Associates were presented in our progress report dated October 24, 1994. The modifications were approved by the NJDEP in its June 12, 1995 letter. Sections 2a and 2b provide details for quarterly and monthly monitoring, respectively.

2a. Quarterly Monitoring

Hexcel conducted quarterly ground water elevation, DNAPL and LNAPL monitoring on April 28, 1997 in accordance with the monitoring plan. Appendix A contains figures and tables developed from the quarterly monitoring. These are discussed below. Results of the quarterly monitoring are tabulated in Table 1. Figures 1 and 2 illustrate shallow and deep ground water elevation contours respectively Ground water elevation data for shallow wells installed by Napp also have been included in generating the shallow ground water contours. Contour Map Reporting Forms are included for each of the contour maps. Table 2 contains a summary of well construction data to accompany the Contour Map Reporting Form for Figure 1.

2b. Monthly Monitoring

In addition to the quarterly monitoring conducted in April, Hexcel conducted monthly DNAPL and LNAPL monitoring on May 15 and June 18, in accordance with the monitoring plan and modifications approved by the NJDEP in its June 12, 1995 letter. There were no modifications made to the monthly monitoring plan in the second quarter of 1997.

Results for May and June monthly monitoring are provided in Tables 3 and 4 located in Appendix B.

Hexcel will continue to modify the monthly monitoring by the addition or deletion of wells in accordance with the approved plan.

3. Product Recovery Program

This section includes results for the temporary product recovery program currently being implemented at the site. The product recovery program, performed on a weekly basis, was initiated on October 20, 1994, and consists of recovering product from affected wells. During the early stages of the program, bailers were used to recover product. Presently, most wells have been equipped with tubing that can be connected to peristaltic pumps that help recover the product. After one month, the program's frequency was reduced to twice a month due to a reduction in the quantity of product recovered. Product recovery continued at the rate of at least twice a month through the week of June 19, 1995. In accordance with the NJDEP's June 12, 1995 letter, weekly product recovery was resumed the week of June 26, 1995.

In its May 23, 1996 letter, the NJDEP approved modifications to the weekly product recovery program for LNAPL and DNAPL. The modifications proposed by Hexcel changed the criteria for inclusion of wells in the weekly product recovery program. The modifications were communicated to the NJDEP in a letter dated September 21, 1995 and also in the October 1995 progress report. According to the modifications, any well which has no measurable recovery for three consecutive weekly recovery rounds will be moved to monthly monitoring and recovery. For the purposes of product collection, quantities greater than 0.1 gallon (approximately 1 cup) are considered to be measurable. Based on our experience, if the product interface meter does not signal the presence of product, then it is not possible to pump a significant amount of DNAPL from the well, even when DNAPL is observed on the probe. Therefore, DNAPL recovery is usually attempted only when there is a signal from the product interface meter indicating the presence of product.

3a. DNAPL Recovery

During the second quarter of 1997, monitoring wells MW-6 and PB-2 were monitored for the presence of product on a weekly basis. Product recovery was attempted every time the product interface probe indicated measurable product. Approximately 0.6 gallons of DNAPL was recovered from MW-6 during the second quarter of 1997. DNAPL recovery during this quarter is summarized in Table 5, located in Appendix C.

3b. LNAPL Recovery

In accordance with the approved modifications to the product recovery program, weekly product recovery for LNAPL was not performed during the second quarter of 1997 because recoverable quantities of LNAPL have not been indicated in any of the wells since September 1996. LNAPL recovery is summarized in Table 6, located in Appendix C.

4. Ground Water Treatment System

Basement seepage water continues to be treated on-site and discharged to the Passaic Valley Sewerage Commissioners (PVSC) sewer line.

5. Sediment Sampling

Hexcel has communicated with the NJDEP's Environmental Toxicology and Risk Assessment (ETRA) group regarding the sediment sampling protocol. Hexcel is prepared to sample, however, local depositional areas are currently not accessible due to high water levels in the Saddle River. Samples will be collected in the Fall, when it is typically drier, or sooner if the water level drops sufficiently before then. We have communicated with the ETRA group and they are in agreement with the above sample strategy.

6. Waste Disposal Documentation

There was no disposal from the site in the second quarter of 1997 and, therefore, there is no disposal documentation for the months of April, May and June 1997.

7. Schedule and Cost Estimates

Table 7 located in Appendix D presents an updated estimate of the schedule of remaining remedial activities. There has been no change to date in the estimate of cleanup costs.

We will continue to submit quarterly progress reports according to the schedule. Please call us if you have any questions regarding the above.

Sincerely,

GEO ENGINEERING, INC.

Marjorie A. Piette
Project Manager

MAP/avm
Enclosures
cc A. William Nosil
Edward Hogan, Esq.

Attachment A

Ground Water Samples

Table A1: Tested Parameters for the Ground Water Samples

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-1	536A-MW01-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW01-GW01DL	Environ	7/88	--	--	Yes	--	--	--	--	--
	536A-MW01-GW02	Environ	7/88	--	--	Yes	--	--	--	--	--
	E320255	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW01-166594	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-2	536A-MW02-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	Yes
	536A-MW02-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	536A-MW02-GW02	Environ	8/88	--	--	--	Yes	Yes	--	--	--
	E320256	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW02-166601	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-3	536A-MW03-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	Yes
	536A-MW03-GW01RE	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320257	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-4	536A-MW04-GW01	Environ	8/88	--	--	Yes	--	--	--	--	Yes
	536A-MW04-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320258	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-5	536A-MW05-GW01	Environ	8/88	--	--	Yes	--	--	--	--	Yes
	E320259	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-6	536A-MW06-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW06-GW01DL	Environ	8/88	Yes	Yes	--	--	--	Yes		--
	536A-MW06-GWDP	Environ	8/88	--	--	Yes	--	Yes	--	--	--
	E320320	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-7	536A-MW07-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320321	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-8	536A-MW08-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW08-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	536A-MW08-GW02	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320322	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-9	536A-MW09-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320323	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-10	536A-MW10-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW10-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320324	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW10-166591	Environ	5/95	--	--	Yes	--	--	--	--	--
	4576A-MW10-166889	Environ	5/95	Yes	--	--	--	--	Yes	--	--

882420008

Table A1: Tested Parameters for the Ground Water Samples

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-11	536A-MW11-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320325	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-12	536A-MW12-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320326	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-13	536A-MW13-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW13-GW11	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	E320327	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-14	536A-MW14-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MW-15	536A-MW15-GW01	Environ	7/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MW-16	536A-MW16-GW01	Environ	8/88	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	536A-MW16-GW02	Environ	8/88	--	--	--	Yes	--	--	--	Yes
	E320328	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW16-166592	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-17	536A-MW17-GW01	Environ	1/89	--	--	Yes	--	--	--	--	--
	E320260	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-18	536A-MW18-GW01	Environ	8/88	--	--	Yes	Yes	Yes	--	--	--
	536A-MW18-GW01DL	Environ	8/88	--	--	Yes	--	--	--	--	--
	E320261	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW18-166596	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-19	536A-MW19-GW01	Environ	1/89	--	--	Yes	--	--	--	--	--
MW-20	MW-20	Heritage	11/90	Yes	Yes	Yes	--	Yes	Yes	Yes	--
	MW-20A	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	MW-20 Dup	Heritage	11/90	--	--	Yes	--	--	--	--	--
	MW-20-S-2242	Heritage	12/90	--	--	Yes	--	--	--	--	--
	E320262	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-21	MW-21	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320263	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-22	E320264	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-23	MW-23	Heritage	11/90	--	--	Yes	--	--	--	--	Yes
	ENSRMW-2	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
	4576A-MW23-166593	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
MW-24	MW-24	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320329	Killam	7/93	--	--	Yes	--	--	--	--	--
	4576A-MW24-166600	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--

882420009

Table A1: Tested Parameters for the Ground Water Samples

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
MW-25	MW-25	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320330	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-26	MW-26	Heritage	12/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
MW-27	MW-27	Heritage	11/90	--	--	Yes	--	--	--	--	--
MW-28	MW-28	Heritage	11/90	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
	E320331	Killam	7/93	--	--	Yes	--	--	--	--	--
MW-29	ENSRMW-3	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-30	ENSRMW-1	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-31	E320265	Killam	7/93	--	--	Yes	--	--	--	--	--
	ENSRMW-4	ENSR	5/95	--	--	Yes	Yes	Yes	--	--	--
MW-32	MW32	Heritage	4/92	--	--	Yes	--	--	--	--	--
MW-33	MW33	Heritage	4/92	--	--	Yes	--	--	--	--	--
CW-1	CW-1	Heritage	4/92	--	--	Yes	--	--	--	--	--
	E320266	Killam	7/93	--	--	Yes	--	--	--	--	--
CW-2	CW-2	Heritage	4/92	--	--	Yes	--	--	--	--	--
CW-3	CW-3	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320247	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320247R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-5	E320248	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320248R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-6	4576A-CW6-166597	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
CW-7	4576A-CW7P-166595	Environ	5/95	--	--	Yes	--	--	--	--	--
	4576A-CW7P-166599	Environ	5/95	--	--	Yes	--	Yes	--	--	--
	4576A-CW7-166602	Environ	5/95	Yes	--	--	--	--	Yes	--	--
CW-9	E320249	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320249R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-10	CW10	Heritage	4/92	--	--	Yes	--	--	--	--	--
	E320332	Killam	7/93	--	--	Yes	--	--	--	--	--
CW-11	CW-11	Heritage	10/90	Yes	Yes	Yes	--	Yes	Yes	--	Yes
	E320250	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320250R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-12	4576A-CW12-166604	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
	4576A-CW12D-166605	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
CW-14	E320333	Killam	7/93	--	--	Yes	--	--	--	--	--

Table A1: Tested Parameters for the Ground Water Samples

Well ID	Sample ID	Company	Date (m/yy)	AE	BN	VOA	Metals	Pest/PCBs	Phenol	Cyanide	TPH
CW-15	E320251	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320251R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-19	E320252	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320252R	Killam	7/93	--	--	--	--	Yes	--	--	--
CW-21	E320253	Killam	7/93	--	--	Yes	--	Yes	--	--	--
	E320253R	Killam	7/93	--	--	--	--	Yes	--	--	--
RW6-1	RW6-1	Heritage	11/90	--	--	Yes	--	--	--	--	--
RW6-2	RW6-2	Heritage	11/90	--	--	Yes	--	--	--	--	--
	E320334	Killam	7/93	--	--	Yes	--	--	--	--	--
RW6-3	RW6-3	Heritage	11/90	--	--	Yes	--	--	--	--	--
RW7-8	4576A-RW7-8-166603	Environ	5/95	Yes	--	Yes	--	--	Yes	--	--
STREAM W-1	W-1-40315	PAS	6/85	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--
STREAM W-2	W-2-40314	PAS	6/85	Yes	Yes	Yes	Yes	Yes	Yes	Yes	--

882420012

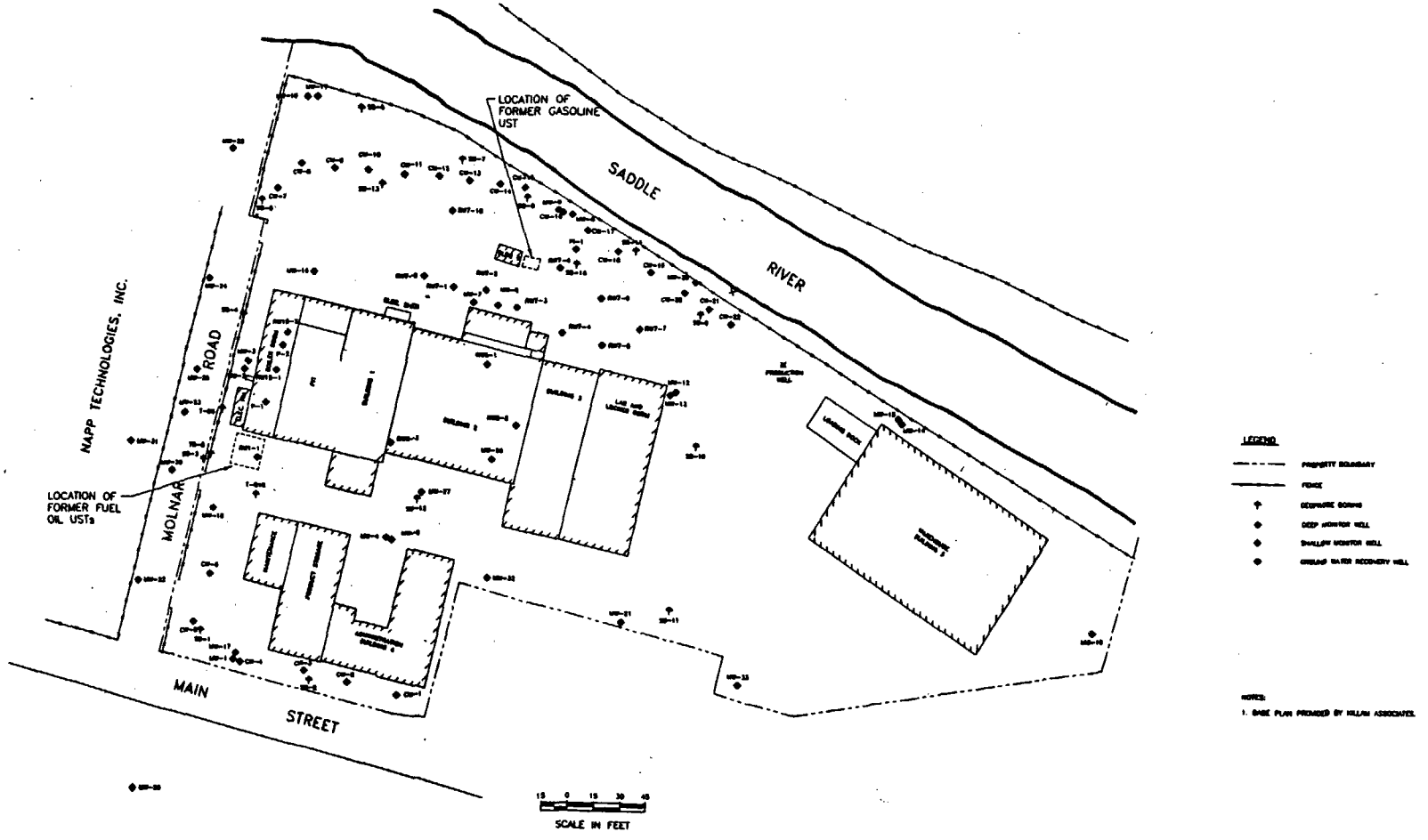


Figure A1

Site Plan

Attachment B

Volatile Organic Results

DATA QUALIFYING NOTES FOR TABLES B1 and B2

All concentrations have been rounded off to the nearest whole number.

GWQS = Ground Water Quality Standards; N.J.A.C. 7:9-6.

170 = Indicates that the concentration exceeds the GWQS for that compound.

(170) = Represents concentration from a diluted or a duplicate sample.

* = The given concentration is a total of 1,2 and 1,4-Dichlorobenzenes.

^ = The given concentration is a total of cis- and trans-1,2-Dichloroethenes.

-- = Not Detected at the Method Detection Limit.

NT = Not Tested

J = Estimated Concentration

B = Compound was also detected in the Method Blank.

** = GWQS not available for this compound; the criteria listed is the interim generic criteria for synthetic organic chemicals lacking evidence of carcinogenicity.

*** = Includes the total of concentrations for all the detected targeted compounds.

~ = New Maximum Concentration Limits (MCLs) in accordance with the revision to Safe Drinking Water Act (New Jersey Register: November 18, 1996). NJDEP memorandum dated February 5, 1997 defines these MCLs as the interim specific criteria replacing the promulgated GWQS for these compounds.

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS	MW-1			MW-2			MW-4		MW-6	
	(ug/L)	1988	1993	1995	1988	1993	1995	1988	1993	1988	1993
1,1,1-Trichloroethane	30	--	--	--	--	--	--	3,900	1,600	3,200	130
1,1,2,2-Tetrachloroethane	1~	--	--	--	5 J	--	--	790 J	--	--	--
1,1,2-Trichloroethane	3	--	--	--	50	--	--	--	--	--	--
1,1-Dichloroethane	50~	31	--	--	--	--	--	--	330	--	15
1,1-Dichloroethene	2	-- B	--	--	--	--	--	--	55	--	--
1,2-Dichloroethane	2	34	--	--	--	--	--	2,900	590	110,000	1,900
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	58	NT	--	2	NT	--	1,000	660	59
1,3-Dichlorobenzene	600	--	--	NT	--	--	NT	--	32	--	--
1,4-Dichlorobenzene	75	--	7	NT	--	2	NT	--	110	48 J	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	1,700
Benzene	1	--	--	--	--	--	--	--	19	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	120	19	9 J	1 J	4	--	9,000	560	--	6,900
Chloroethane	100**	--	--	--	--	--	--	--	--	27,000	19
Chloroform	6	13 J	--	--	7	--	--	--	--	1,200	24
Ethylbenzene	700	18 J	--	--	--	--	--	--	24	--	30
Methylene Chloride	3~	890 D	--	--	83 B,D	--	--	200,000 B,D	11,000	74,000 B	900
Tetrachloroethene	1	63	--	--	280	9	11	53,000	1,700	13,000	600
Toluene	1,000	140	34	12	--	--	--	3,200	180	4,700	250
cis- 1,2-Dichloroethene	70~	--	1,300	700	--	28	10	--	160	--	73
trans- 1,2-Dichloroethene	100	5,500	--	--	530	--	--	12,000	40	--	--
Trichloroethene	1	16 J	--	9 J	72	2	4 J	18,000	1,800	6,500	280
Vinyl Chloride	5	480	--	74	34	--	--	--	--	--	30
Xylene (Total)	1000~	NT	36	--	NT	--	--	NT	240	NT	45
Total Targeted Volatile Organics (ug/L)***		7,305	1,454	803	1,062	47	25	302,790	19,440	240,308	12,955

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	MW-8		MW-10			MW-12		MW-14	MW-16		
		1988	1993	1988	1993	1995	1988	1993	1988	1988	1993	1995
1,1,1-Trichloroethane	30	570 J	390	--	--	--	8	38	--	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	640 J	160	--	--	--	2 J	5	--	7	6	4
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	5,400	--	--	76	--	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	220	5,500	22	--	NT	--	--	--	2 J	3	NT
1,3-Dichlorobenzene	600	--	--	--	--	NT	--	--	--	--	--	NT
1,4-Dichlorobenzene	75	250	390	19	--	NT	--	--	--	--	--	NT
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	1,300	3,600	980	590	660	--	--	--	5 J	4	3
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	2 J	--	--	--	--	--
Chlorobenzene	50~	80,000	69,000	8,300	7,000	5,500	1 J	--	--	110	63	57
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	200 J	--	--	--	--	--	--	--	4 J	--	--
Ethylbenzene	700	--	340	22 J	--	--	--	--	--	3 J	4	3
Methylene Chloride	3~	14,000 B,D	--	410 B,D	--	--	20 B	--	10 B	12 B	--	--
Tetrachloroethene	1	3,600	8,200	--	--	--	--	--	--	4 J	--	--
Toluene	1,000	11,000	5,400	--	--	--	--	--	--	180	10	8
cis- 1,2-Dichloroethene	70~	--	1,300	--	--	--	--	--	--	--	32	19
trans- 1,2-Dichloroethene	100	13,000	--	18 J	--	--	--	--	--	120	1	1
Trichloroethene	1	850 J	1,300	16 J	--	--	--	--	--	6	--	--
Vinyl Chloride	5	--	490	--	--	--	--	--	--	57	45	10
Xylene (Total)	1000~	NT	310	NT	--	--	NT	--	NT	NT	3	3
Total Targeted Volatile Organics (ug/L)***		131,030	96,380	9,787	7,666	6,160	32	43	10	509	170	109

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

88420016

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	MW-17		MW-18			MW-20		MW-21		MW-22	MW-23	
		1989	1993	1988	1993	1995	1990	1993	1990	1993	1993	1990	1995
1,1,1-Trichloroethane	30	--	1,700	--	--	--	5 J	--	--	--	2,000	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	1,200	250	150	71	--	--	--	27	21	860	--	--
1,1-Dichloroethene	2	690	120	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	2,100	450	280	820	--	--	--	--	--	670	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	21,000 *	1,200	--	880	NT	3 J	--	117	40	2,100	95 J	NT
1,3-Dichlorobenzene	600	310	100	--	27	NT	--	--	31	56	--	397 J	NT
1,4-Dichlorobenzene	75		170	--	940	NT	--	--	102	200	190	--	NT
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	15	350	280	--	--	--	14	24	--	--	35
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	2,300	240	2,600	7,100	4,300	--	--	827	2,400	760	55 J	81
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	--	--	--	--	4 J	--	--	--	--	--	--
Ethylbenzene	700	420	15	53	110	--	--	--	--	--	240	--	--
Methylene Chloride	3~	610,000	5,800	18,000 B,D	--	--	17	--	98	--	270,000	--	--
Tetrachloroethene	1	26,000	2,600	5	--	--	119	--	3	--	1,200	--	--
Toluene	1,000	7,900	360	240	160	--	--	1	9	14	3,100	--	96
cis- 1,2-Dichloroethene	70~	96,000 ^	35,000	--	42,000	210,000	NT	--	NT	1,900	120,000	--	19,000
trans- 1,2-Dichloroethene	100		61	710	80	--	5	--	--	--	--	2,285	--
Trichloroethene	1	77,000	3,800	--	23	--	17	--	4	--	3,400	--	--
Vinyl Chloride	5	--	--	16,000	28,000	6,000	--	--	--	670	--	1,729	5,200
Xylene (Total)	1000~	NT	140	NT	290	--	--	--	14	30	700	121 J	100
Total Targeted Volatile Organics (ug/L)***		844,920	52,021	38,388	80,781	220,300	170	1	1,246	5,355	405,220	4,682	24,512

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	MW-24			MW-25		MW-26	MW-27	MW-28		MW-29	MW-30
		1990	1993	1995	1990	1993	1990	1990	1990	1993	1995	1995
1,1,1-Trichloroethane	30	--	--	--	--	--	3,169	2,474 J	7 J	--	23	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	3,824 J	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	--	--	--	--	--	--	--	44 J	--	48	--
1,1-Dichloroethene	2	--	--	--	--	--	113 J	--	--	--	--	--
1,2-Dichloroethane	2	--	1	--	--	--	11,990	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	--	NT	9 J	--	3,098	7,613 J	10 J	--	--	--
1,3-Dichlorobenzene	600	--	--	NT	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	75	--	--	NT	12	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	--	--	933	600	1,741	--	24 J	140	--	140
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	344	--	--	--	--	--
Chlorobenzene	50~	--	1	2 J	2,159	2,000	15,700	14,980	418	1,700	--	140
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	--	--	--	--	1,110	--	--	--	--	--
Ethylbenzene	700	--	--	--	8 J	--	--	--	--	--	--	--
Methylene Chloride	3~	4 J	--	3 J	8 J	--	106,900	126,000	8 J	--	--	--
Tetrachloroethene	1	--	--	--	6 J	--	3,020	219,400	--	--	36	--
Toluene	1,000	--	--	--	--	--	--	--	--	--	--	--
cis- 1,2-Dichloroethene	70~	NT	--	--	NT	--	NT	NT	NT	--	2,300	12,000
trans- 1,2-Dichloroethene	100	--	--	--	19 J	--	122 J	78,850	17 J	--	--	--
Trichloroethene	1	--	--	--	--	--	999	135,800	--	--	--	--
Vinyl Chloride	5	--	--	--	--	--	--	--	--	--	1,100	2,300
Xylene (Total)	1000~	--	--	--	--	--	--	5,201 J	--	--	--	--
Total Targeted Volatile Organics (ug/L)***		4	2	5	3,154	2,600	148,306	594,142	528	1,840	3,507	14,580

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

88242001B

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	MW-31		MW-32	MW-33	CW-1		CW-2	CW-3		CW-5	CW-6
		1993	1995	1992	1992	1992	1993	1990	1990	1993	1993	1995
1,1,1-Trichloroethane	30	--	--	--	--	26	23	--	1,280	1,200	9,500	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	42	--	--	--	70	396	--	525	460	1,200	--
1,1-Dichloroethene	2	7	--	--	--	--	1	--	454	--	--	--
1,2-Dichloroethane	2	--	--	--	--	--	1	129	--	--	1,500	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	59	NT	94 J	--	9	65	40 J	6,581	5,300	5,600	--
1,3-Dichlorobenzene	600	10	NT	94 J	--	9	5	40 J	157	110	--	--
1,4-Dichlorobenzene	75	32	NT	273 J	--	--	8	380	3,333	380	740	--
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	5	--	--	--	--	--	--
Benzene	1	32	30	--	--	--	--	--	23	--	--	--
Bromodichloromethane	1	--	--	--	--	--	--	--	88	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	198	--	--	--
Chlorobenzene	50~	100	48	188 J	--	--	17	46 J	2,310	2,200	3,900	--
Chloroethane	100**	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	--	49	--	15	--	--	--	24	--	--	--
Ethylbenzene	700	1	7	--	--	--	6	--	324	--	--	--
Methylene Chloride	3~	--	--	10,040 B	3 J	--	--	21 JB	14,200	5,600	500,000	620,000
Tetrachloroethene	1	--	13	--	--	46	79	--	5,650	2,900	39,000	4,400 J
Toluene	1,000	13	22	175 J	--	--	3	24 J	1,575	510	7,100	5,700
cis- 1,2-Dichloroethene	70~	1	1,800	--	--	--	800	--	NT	80,000	160,000	56,000
trans- 1,2-Dichloroethene	100	60	--	292	--	--	6	--	107	--	--	--
Trichloroethene	1	--	--	201 J	--	34	29	40 J	4,395	1,200	81,000	16,000
Vinyl Chloride	5	34,000	1,200	--	--	--	13	--	--	--	--	--
Xylene (Total)	1000~	81	37	--	--	--	36	--	815	690	2,500	--
Total Targeted Volatile Organics (ug/L)***		34,438	3,206	11,357	18	198	1,487	720	42,039	100,550	812,040	702,100

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

88420019

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	CW-7	CW-9	CW-10		CW-11		CW-12	CW-14	CW-15	CW-19	CW-21
		1995	1993	1992	1993	1990	1993	1995	1995	1995	1995	1995
1,1,1-Trichloroethane	30	--	--	--	--	--	--	--	--	290	--	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	56	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	50~	--	--	--	2	575	230	--	--	330	10	--
1,1-Dichloroethene	2	--	--	--	--	18	--	--	--	--	--	--
1,2-Dichloroethane	2	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	57	--	16	725	570	--	470	4,600	190	140
1,3-Dichlorobenzene	600	--	--	--	2	25	--	--	100	--	35	--
1,4-Dichlorobenzene	75	--	--	--	6	113	120	--	200	310	170	180
2-Chloroethyl Vinyl Ether	100**	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	--	1,600	--	78	2,390	960	1,800 J	2,400	340	1,400	1,200
Bromodichloromethane	1	--	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	370	5,200	881	1,800	2,965	52,000	140,000	17,000	76,000	16,000	11,000
Chloroethane	100**	--	--	--	--	175	--	--	21	--	--	--
Chloroform	6	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	700	91	--	--	4	449	610	--	62	1,400	10	--
Methylene Chloride	3~	--	--	--	13	2,315	--	--	--	--	--	--
Tetrachloroethene	1	--	--	59 J	2	910	--	12,000	--	11,000	--	--
Toluene	1,000	160	--	--	11	--	6,500	5,700	160	8,100	210	370
cis- 1,2-Dichloroethene	70~	--	1,200	--	29	NT	6,900	8,100	--	22,000	260	6,400
trans- 1,2-Dichloroethene	100	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene	1	--	--	--	8	240	--	5,200	--	3,100	--	--
Vinyl Chloride	5	--	--	--	--	6,700	5,500	--	--	--	--	--
Xylene (Total)	1000~	160	--	--	4	122	200	--	43	--	14	--
Total Targeted Volatile Organics (ug/L)***		781	8,057	940	1,974	17,778	73,590	172,800	20,456	127,470	18,299	19,290

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

Table B1: Volatile Organics Analytical Results and Exceedences for GWQS

SHALLOW WELLS

Well ID	GWQS (ug/L)	RW6-1	RW6-2		RW6-3	RW7-8
		1990	1990	1993	1990	1995
1,1,1-Trichloroethane	30	773	1,741	--	--	--
1,1,2,2-Tetrachloroethane	1~	--	132 J	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--
1,1-Dichloroethane	50~	400	2,686	1,100	--	--
1,1-Dichloroethene	2	117 J	--	--	--	--
1,2-Dichloroethane	2	77,340	188,800	180,000	--	--
1,2-Dichloropropane	1	2,757	806	--	--	--
1,2-Dichlorobenzene	600	27,980	2,157	2,500	28,220	--
1,3-Dichlorobenzene	600	1,899	--	--	590	--
1,4-Dichlorobenzene	75	873	--	--	--	--
2-Chloroethyl Vinyl Ether	100**	--	--	14,000	--	--
Benzene	1	469	938	--	392 J	800
Bromodichloromethane	1	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--
Chlorobenzene	50~	27,980	123,300	110,000	118,300	8,500
Chloroethane	100**	--	--	--	--	--
Chloroform	6	2,543	8,452	2,500	--	--
Ethylbenzene	700	873	1,219	110	--	--
Methylene Chloride	3~	17,400	160,700	250,000	31,160	1,800
Tetrachloroethene	1	2,728	11,480	5,400	52,080	--
Toluene	1,000	1,899	2,859	1,900	--	180 J
cis- 1,2-Dichloroethene	70~	--	NT	--	--	290
trans- 1,2-Dichloroethene	100	138 J	941	--	13,640	--
Trichloroethene	1	202	7,302	10,000	5,641	--
Vinyl Chloride	5	226 J	--	--	--	150 J
Xylene (Total)	1000~	--	--	--	--	--
Total Targeted Volatile Organics (ug/L)***		166,597	513,513	577,510	250,023	11,720

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

Table B2: Volatile Organics Analytical Results and Exceedences for GWQS

DEEP WELLS

Well ID	GWQS (ug/L)	MW-3		MW-5		MW-7		MW-9		MW-11		MW-13		MW-15	MW-19
		1988	1993	1988	1993	1988	1993	1988	1993	1988	1993	1988	1993	1988	1989
1,1,1-Trichloroethane	30	3 J	1	2 J	--	3 J	2	--	--	2 J	--	5 J	--	7	--
1,1,2,2-Tetrachloroethane	1~	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	3	--	--	--	--	--	--	--	--	--	--	35 J	--	--	--
1,1-Dichloroethane	50~	--	--	48	6	--	--	--	--	2 J	--	2 J	--	--	--
1,1-Dichloroethene	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	2	--	2	3 J	--	15	22	2 J	2	--	2	--	--	--	--
1,2-Dichloropropane	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	600	--	180	--	7	6 J	9	6 J	7	--	3	12 J	--	--	--
1,3-Dichlorobenzene	600	--	6	--	1	56	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	75	--	15	--	3	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	1	7 J	--	10	2	--	--	--	--	2 J	--	--	--	--	--
Bromodichloromethane	1	--	--	--	--	6	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	50~	320	72	61	20	--	53	--	25	29	12	--	--	4 J	--
Chloroethane	100	--	--	7 J	--	--	--	--	--	--	--	--	--	--	--
Chloroform	6	9 J	--	--	--	70	--	3 J	--	--	--	1 J	1	--	--
Ethylbenzene	700	--	--	6	--	--	--	--	--	--	--	--	--	--	--
Methylene Chloride	3~	73 B	--	50 B	8	19 B	6	12 B	--	12 B	--	19	--	4 J,B	--
Tetrachloroethene	1	--	25	3 J	--	7	19	9	9	--	3	4 J	3	--	4 J
Toluene	1,000	4 J	--	29	--	2 J	3	--	2	--	--	--	--	--	--
cis- 1,2-Dichloroethene	70~	--	380	--	81	--	7	--	15	--	9	--	15	--	11 ^
trans- 1,2-Dichloroethene	100	430	3	180	--	6	--	5	--	13	--	15	--	1 J	--
Trichloroethene	1	--	11	4 J	--	11	8	12	11	6	2	50	6	9	43
Vinyl Chloride	5	58	23	200	69	--	--	--	--	--	--	--	2	--	--
Xylene (Total)	1000~	NT	--	NT	--	NT	--	NT	--	NT	--	NT	--	--	NT
Total Targeted Volatile Organics (ug/L)		904	719	603	196	201	128	49	70	66	31	143	26	25	58

Refer to data qualifying notes provided at the beginning of the Volatile Organics Results section.

882420022

Table B3: Comparison of Ground Water Quality for the shallow-deep well clusters for the 1993 Sampling Round

	GWQS (ug/L)	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5		Cluster 6	
		MW-2 Shallow	MW-3 Deep	MW-4 Shallow	MW-5 Deep	MW-6 Shallow	MW-7 Deep	MW-8 Shallow	MW-9 Deep	MW-10 Shallow	MW-11 Deep	MW-12 Shallow	MW-13 Deep
Benzene	1	--	--	19	2	--	--	3,600	--	590	--	--	--
Chlorobenzene	50~	4	72	560	20	6,900	53	69,000	25	7,000	12	--	--
Chloroethane	100*	--	--	--	--	19	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	100*	--	--	--	--	1,700	--	--	--	--	--	--	--
Chloroform	6	--	--	--	--	24	--	--	--	--	--	--	1
1,2-Dichlorobenzene	600	2	180	1,000	7	59	9	5,500	7	--	3	--	--
1,3-Dichlorobenzene	600	--	6	32	1	--	--	--	--	--	--	--	
1,4-Dichlorobenzene	75	2	15	110	3	--	--	390	--	--	--	--	--
1,1-Dichloroethane	50~	--	--	330	6	15	--	160	--	--	--	5	--
1,2-Dichloroethane	2	--	2	590	--	1,900	22	--	2	76	2	--	--
1,1-Dichloroethene	2	--	--	55	--	--	--	--	--	--	--	--	--
cis- 1,2-Dichloroethene	70~	28	380	160	81	73	7	1,300	15	--	9	--	15
trans- 1,2-Dichloroethene	100	--	3	40	--	--	--	--	--	--	--	--	--
Ethylbenzene	700	--	--	24	--	30	--	340	--	--	--	--	--
Methylene Chloride	3~	--	--	11,000	8	900	6	--	--	--	--	--	--
Tetrachloroethene	1	9	25	1,700	--	600	19	8,200	9	--	3	--	3
Toluene	1000	--	--	180	--	250	3	5,400	2	--	--	--	--
1,1,1-Trichloroethane	30	--	1	1,600	--	130	2	390	--	--	--	38	--
Trichloroethene	1	2	11	1,800	--	280	8	1,300	11	--	2	--	6
Vinyl Chloride	5	--	23	--	69	30	--	490	--	--	--	--	2
Xylene (Total)	1000~	--	--	240	--	45	--	310	--	--	--	--	--
Total Targeted Volatile Organics (ug/L)**		47	719	19,440	196	12,955	128	96,380	70	7,666	31	43	26

Notes:

GWQS = Ground Water Quality Standards; N.J.A.C. 7:9-6.

* = GWQS not available for this compound; the criteria listed is the interim generic criteria for synthetic organic chemicals lacking evidence of carcinogenicity.

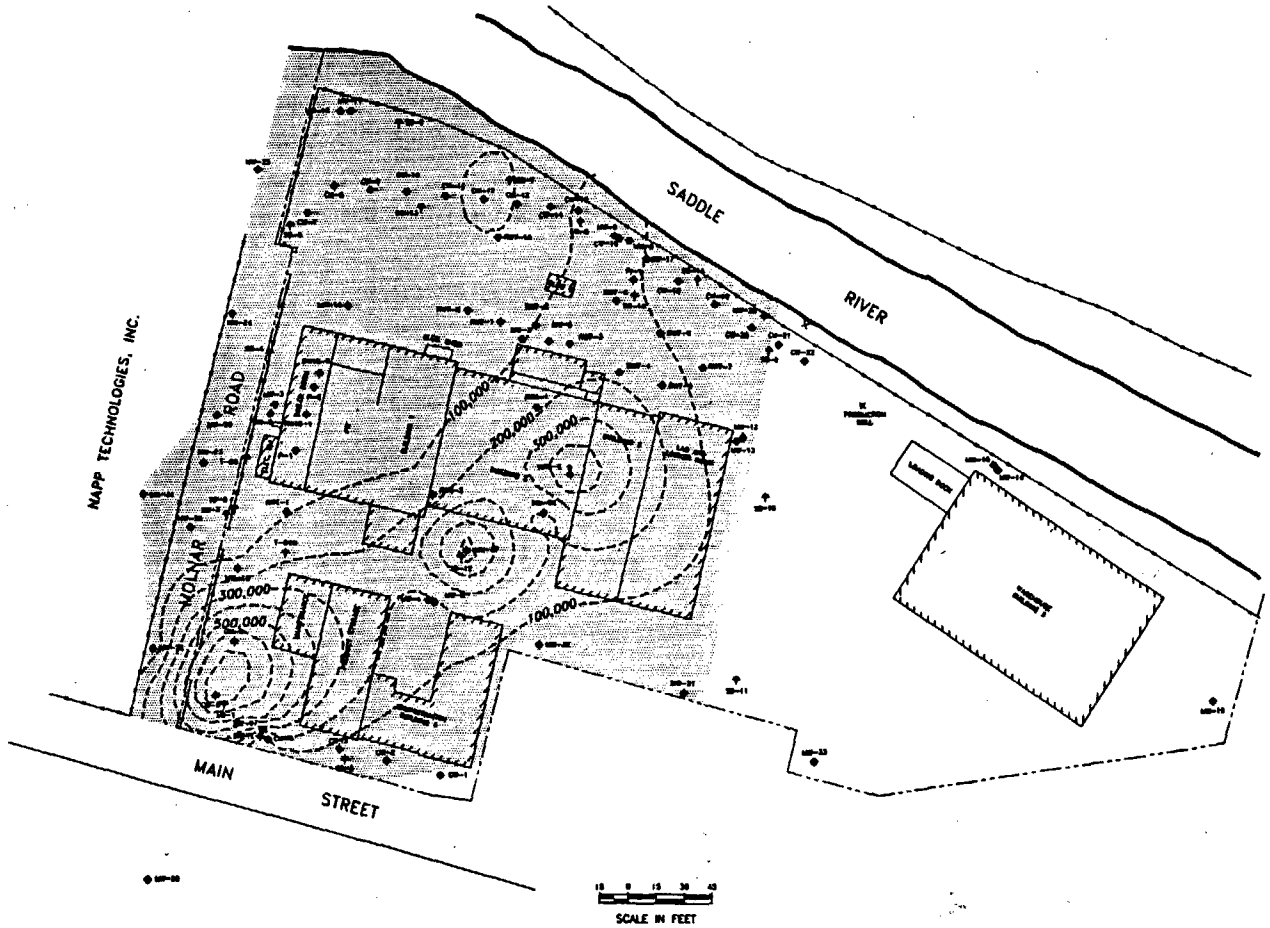
560 = Indicates that the concentration exceeds the GWQS for that compound.

** = Includes the total of concentrations for all the detected targeted compounds.

-- = Not Detected at the Method Detection Limit.

~ = New Maximum Concentration Limits (MCLs) in accordance with the revision to Safe Drinking Water Act (New Jersey Register: November 18, 1996). NJDEP memorandum dated February 5, 1997 defines these MCLs as the interim specific criteria replacing the promulgated GWQS for these compounds.

88240023



LEGEND

NOTES:

1. BASE PLAN PREPARED BY WILLIAM ASSOCIATES.
2. TOTAL VOLATILE ORGANICS CONCENTRATION ISOPLETHS ARE GENERATED FOR GROUND WATER DATA COLLECTED BETWEEN 1988 AND 1995. AVERAGE CONCENTRATIONS HAVE BEEN USED FOR WELLS WITH GROUND WATER DATA FROM MORE THAN ONE SAMPLING ROUND.
3. THE SHADED AREA INDICATES THE AREA IN WHICH GROUND WATER SAMPLES FROM MONITORING WELLS HAVE BEEN OBTAINED WITH DISSOLVED DNAPL COMPOUNDS ABOVE NJDEP CRITERIA. FOR WELLS THAT HAVE BEEN TESTED MORE THAN ONCE, THE MOST RECENT SAMPLING DATA HAS BEEN USED FOR COMPARISON WITH THE NJDEP CRITERIA.

Figure B1

Total Volatile Organics Concentration Isopleths

Attachment C

Polychlorinated biphenyls (PCBs) Results

Table C1: Exceedences in Ground Water Samples for PCBs

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-2	536A-MW02-GW01	Environ	8/88	Aroclor 1248	86.0	0.5
	536A-MW02-GW02	Environ	8/88	Aroclor 1248	45.0	0.5
MW23	ENSRMW-2	ENSR	5/95	PCBs	0.6	0.5
MW-25	MW-25	Heritage	11/90	Aroclor 1242	3.0	0.5
MW29	ENSRMW-3	ENSR	5/95	PCBs	6.4	0.5
MW30	ENSRMW-1	ENSR	5/95	PCBs	14.0	0.5
CW-3	E320247	Killam	7/93	Aroclor 1242	22.0	0.5
CW-5	E320248	Killam	7/93	Aroclor 1242	180.0	0.5
	E320248R*	Killam	7/93	Aroclor 1242	100.0	0.5
CW7**	4576A-CW7P/166599	Environ	5/95	Aroclor 1242	2170.0	0.5
CW-11	E320250	Killam	7/93	Aroclor 1242	11.0	0.5
CW-15**	E320251	Killam	7/93	Aroclor 1242	470.0	0.5
CW-19	E320252	Killam	7/93	Aroclor 1242	1.9	0.5

Notes:

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6

* = Refers to filtered samples; filtered and unfiltered ground water samples were collected by Killam in 1993 for 7 wells (CW-3,5,9,11,15,18 and 21) for PCBs analyses.

** = The well is reported to have had product in it at the time of sampling.

Attachment D

Acid Extractables and Base Neutral Organics Results

Table D1: Exceedences in Ground Water Samples for Acid Extractable and Base Neutral Organics

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-6	536A-MW06-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	39.0	30
	536A-MW06-GW01DL	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	33.0 J	30
MW-8	536A-MW08-GW01	Environ	8/88	2,4-Dimethylphenol	110.0	100
				2-Chlorophenol	73.0	40
				Phenol	6255.8	4000
MW-14	536A-MW14-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	38.0	30
MW-16	536A-MW16-GW01	Environ	8/88	Bis(2-ethylhexyl)Phthalate*	210.0	30
CW-3	CW-3	Heritage	10/90	2,4-Dichlorophenol	23.0	20
				2,4-Dinitrotoluene	268.0	10
				2-Chlorophenol	1091.0	40
				Hexachlorobutadiene	48.0	1
				Hexachloroethane	68.0	10
				2,4,6-Trichlorophenol	99.0	5 (IGC, C)
				2-Methylphenol	27.0	5 (IGC, C)
				2-Nitrophenol	721.0	100 (IGC, NC)
				4-Methylphenol	25.0	5 (IGC, C)
				4-Nitrophenol	1644.0	100 (IGC, NC)
				2-Nitroaniline	713.0	100 (IGC, NC)
				4-Chlorophenyl Phenyl Ether	2348.0	100 (IGC, NC)
				Azobenzene	327.0	5 (IGC, C)
				Benzoic Acid	2120.0	100 (IGC, NC)
CW-11	CW-11	Heritage	10/90	4-Methylphenol	15.0	5 (IGC, C)
				2-Methylnaphthalene	177.0	100 (IGC, NC)
				Benzoic Acid	346.0	100 (IGC, NC)
CW12	4576A-CW12/166604	Environ	5/95	2-Chlorophenol	53.0 J	40
				Benzoic Acid	1800.0	100 (IGC, NC)
	4576A-CW12D/166605	Environ	5/95	2-Chlorophenol	98.0 J	40
STREAM W-1	W-1-40315	PAS	6/85	Bis(2-ethylhexyl)Phthalate*	53.0	30
STREAM W-2	W-2-40314	PAS	6/85	Bis(2-ethylhexyl)Phthalate*	79.0	30

Table D1: Exceedences in Ground Water Samples for Acid Extractable and Base Neutral Organics

DEEP WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-7	536A-MW07-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	39.0	30
MW-9	536A-MW09-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	32.0	30
MW-13	536A-MW13-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	49.0	30
	536A-MW13-GW11	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	36.0	30
MW-15	536A-MW15-GW01	Environ	7/88	Bis(2-ethylhexyl)Phthalate*	36.0	30

Notes:

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6

(IGC,C) = Interim Generic Ground Water Quality Criteria for carcinogenic synthetic organic chemicals.

(IGC,NC) = Interim Generic Ground Water Quality Criteria for non-carcinogenic synthetic organic chemicals.

J = Estimated Concentration.

* = Bis(2-ethylhexyl)Phthalate was detected in all the ground water samples in 1988. Environ had classified the presence of this compound as "ubiquitous in the environment and sometimes associated with the sampling gloves and/or equipment".

882420029

Attachment E

Metals Results

Table E1: Exceedences in Ground Water Samples for Metals

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-1	536A-MW01-GW01	Environ	7/88	Arsenic	12.5	8
MW-2*	536A-MW02-GW01	Environ	8/88	Antimony	495.0	20
				Arsenic	14.5	8
				Beryllium	70.0	20
				Cadmium	34.0	4
				Chromium	615.0	100
				Lead	410.0	10
				Mercury	24.9	2
				Nickel	752.0	100
MW-6	536A-MW06-GW01	Environ	8/88	Arsenic	10.5	8
MW-8	536A-MW08-GW01	Environ	8/88	Arsenic	16.1	8
				Lead	13.6	10
				Nickel	175.0	100
MW-10	536A-MW10-GW01	Environ	8/88	Arsenic	11.6	8
				Lead	16.9	10
				Nickel	117.0	100
MW-12	536A-MW12-GW01	Environ	8/88	Arsenic	11.0	8
				Lead	43.6	10
MW-14	536A-MW14-GW01	Environ	8/88	Antimony	98.0	20
				Arsenic	17.0	8
				Lead	12.7	10
MW-16*	536A-MW16-GW01	Environ	8/88	Antimony	962.0	20
				Beryllium	167.0	20
				Cadmium	59.0	4
				Chromium	2000.0	100
				Copper	9040.0	1000
				Lead	1860.0	10
				Mercury	47.5	2
				Nickel	1160.0	100

Table E1: Exceedences in Ground Water Samples for Metals

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)	GWQS
MW-18	536A-MW18-GW01	Environ	8/88	Antimony	209.0	20
				Arsenic	84.0	8
				Lead	27.5	10
				Nickel	325.0	100
MW23	ENSRMW-2	ENSR	5/95	Arsenic	18.1	8
MW-24	MW-24	Heritage	11/90	Lead	150.0	10
MW-25	MW-25	Heritage	11/90	Lead	100.0	10
MW-26	MW-26	Heritage	12/90	Arsenic	21.0	8
				Nickel	140.0	100
MW-28	MW-28	Heritage	11/90	Lead	150.0	10
MW29	ENSRMW-3	ENSR	5/95	Cadmium	4.1	4
				Thallium	43.1	10
MW30	ENSRMW-1	ENSR	5/95	Arsenic	132.0	8
				Cadmium	170.0	4
				Chromium	141.0	100
				Lead	108.0	10
				Nickel	297.0	100
MW31	ENSRMW-4	ENSR	5/95	Arsenic	12.3	8

DEEP WELLS

MW-3	536A-MW03-GW01	Environ	8/88	Arsenic	15.6	8
				Lead	10.2	10
MW-7	536A-MW07-GW01	Environ	7/88	Lead	11.3	10

Notes:

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6

* = Verification samples were collected in 12/88 for MW-2 and MW-16; these samples did not have exceedence for any metals.

882420032

Attachment F

Petroleum Hydrocarbons Results

Table F1: Total Petroleum Hydrocarbons Results for Ground Water

SHALLOW WELLS

Well ID	Sample ID	Company	Date	Constituent	Concentration (ug/L)
MW-4	536A-MW04-GW01	Environ	8/1/88	Total Petroleum Hydrocarbons	88600
MW-8	536A-MW08-GW01	Environ	8/1/88	Total Petroleum Hydrocarbons	2300
MW-21	MW-21	Heritage	10/1/90	Total Petroleum Hydrocarbons	3500
MW-23	MW-23	Heritage	11/1/90	Total Petroleum Hydrocarbons	506000
CW-3	CW-3	Heritage	10/1/90	Total Petroleum Hydrocarbons	11900
CW-11	CW-11	Heritage	10/1/90	Total Petroleum Hydrocarbons	3330

Notes: No GWQS is available for TPHs in ground water. Out of the 22 samples analyzed for TPHs,TPHs were detected in the above-listed six samples.

GWQS = Ground Water Quality Standards, N.J.A.C. 7:9-6

Attachment G

LNAPL and DNAPL Characteristics

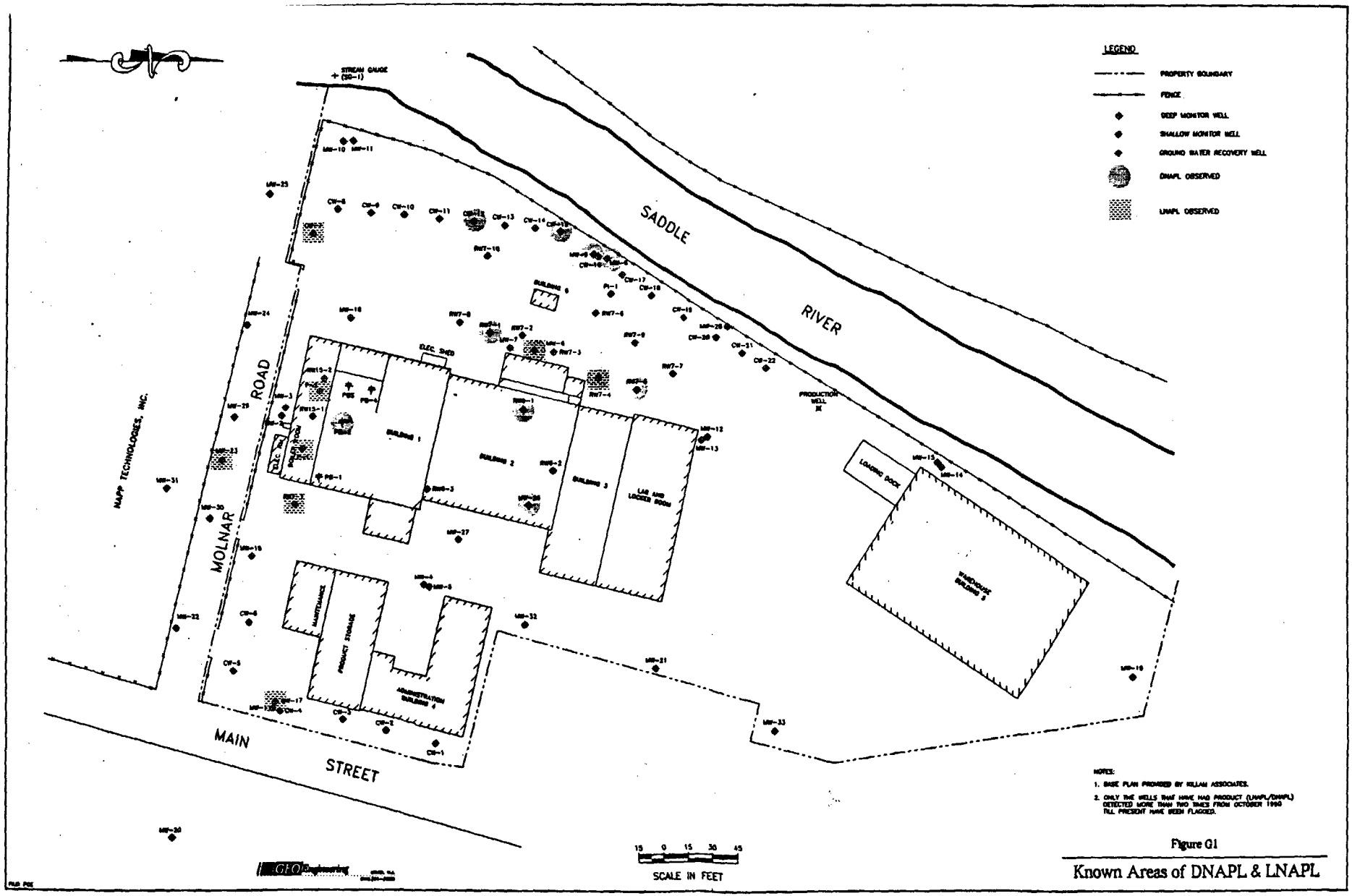


Figure G1

Known Areas of DNAPL & LNAPL

Table G1: LNAPL Measurements.

The measurements of thickness of LNAPL layer are in feet

Date	MW-6	MW-8	MW-12	MW-17	MW-18	MW-23	MW-24	MW-25	MW-26	MW-29	MW-30	P-1	P-2	RW1-1	RW6-1	RW6-3	RW7-4	RW7-5	RW15-1	CW-7	CW-12	CW-15	CW-16
10/3/90												0.10	--						--				
11/10/90						Trace																	
12/13/90												0.08	--						--				
2/12/91										--	Trace												
6/18/91					--	Trace				Trace	--									3.15			
7/26/91					--	--				--	--												
8/29/91												0.38	--						--	2.14			
9/17/91																				1.89			
10/16/91														--									
3/18/92												Trace	--	--					--	Trace			
4/9/92					Trace		0.02			--	--									0.16			
3/11/93	--	--	0.01	--	--		--	0.93	--	--	--	--	0.32	--	--				--				
4/7/93	--	--	--	--	--		--	--	--	--	--	--	0.68	--	--								
4/27/93	--	--	--	--	--	--	--	--	--	--	--	--	0.20	--					--	1.76			
5/28/93	--	--	--												--				--	--			
7/6/93	--	--	--	--	--	--	--	--	--	--	--	--	0.22	--	--				--	2.39			
8/20/93	--	--	--	--	--	--	--	--	--	--	--	--	0.18	--	--				--	1.84			
9/30/93	--	--	--	--	--	--	--	--		--	--	--	0.11	--	--				--	0.10			
10/21/93	--	--	--	--	--	--	--	--	--	--	--	--	Trace	--	--				--	0.70			
5/16/94	--	--	--	--	--	--	--		0.32	--	--		0.03	--			--	--	--	0.10	--		
6/23/94	--	--															--	--			Trace		--
7/22/94	--	--	--														--	--		--	Trace		--
10/5/94	--	--	--	--	--	--	--	--	Trace	--	--	--	Trace	--	--		--	--	--	0.09			--
11/9/94	--	--							--				Trace		--		--			0.16	--		--
12/9/94	--	--							--				Trace		--		--			Trace	--		--
1/9/95	--	--	--	--	--	--	--	--	--	--	--	--	--	Trace			--	--	--	Trace	--		--
2/17/95	--	--							--				--	--			--			0.04			--
3/14/95	--	--							--					Trace			--			0.02	--		--
4/10/95	--	--	--	--	--	--	--	--	--	--	--	--	--	Trace	--		--	--	--	Trace	Trace		--
5/10/95	--	--				Trace			--				Trace	--	--		--			Trace	Trace		--
6/6/95	Trace	--				Trace			--				Trace	Trace			--	--		0.19	Trace		Trace
7/6/95	--	--	--	--	--	--	--	--	--	--	--	--	Trace	Trace	--		--	--	--	Trace	Trace		--
8/3/95						--			--					--			Trace			Trace	--		
8/10/95	0.23	Trace				--			--				Trace	Trace	--	--	Trace	Trace		Trace	--		--
9/14/95	0.46	--				--			--				Trace	--	--	Trace	--	--		Trace	--		--
10/10/95	Trace	--	--	Trace	--	--	--	--	--	--	--	--	--	--	--		--	--	Trace	Trace	--	--	--
11/9/95	--	--		Trace		--			--				Trace	--	--		Trace	--	--	--	--	--	--
12/7/95	--	--		Trace		--			--				Trace	--	--		--	--	--	--	--		--
1/23/96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Trace	--	--	--	--		--		--
2/21/96	--	--		--					--				Trace	--	--		--		--	--	--		--
3/14/96	--	--		--									WA		--		--			--	--		--
4/17/96	--	--	--	--	--	Trace	--	--	--	--	--	--	WA	--	--	--	--	--	--	--	--		--
5/15/96	--	--				--							WA		--		--				--		--
6/13/96	--	--				--							WA		--		--				--		--
7/11/96	--	--	--	--	--	--	--	--	--	--	--	--	WA	--	--	--	--	--	--	1.55	--		--

Table G1: LNAPL Measurements.

The measurements of thickness of LNAPL layer are in feet

Date	MW-6	MW-8	MW-12	MW-17	MW-18	MW-23	MW-24	MW-25	MW-26	MW-29	MW-30	P-1	P-2	RW1-1	RW6-1	RW6-3	RW7-4	RW7-5	RW15-1	CW-7	CW-12	CW-15	CW-16
8/29/96	--	--				--							WA		--		--			--	--		--
9/23/96	--	--											WA		--		--			--	--		--
10/9/96	--	--	--	--	--	--	--	--	--	--	--	--	WA	--	--	--	--	--	--	--	--		--
11/25/96	--	--											WA	--	NA		--	--		--	--		--
12/23/96	--	--											WA	--	NA		--	--			--		--
1/14/97	--	--	--	--	--	--	--	--	--	--	--	--	WA	--	NA	--	--	--	--	--	--		--
2/4/97	--	--											WA		NA		--				--		--
3/7/97	--	--											WA		NA		--				--		--
4/28/97	--	--	--	--	--	--	--	--	--	--	--	--	WA	--	NA	--	--	--	--	--	--		--
5/15/97	--	--											WA		NA		--				--		--
6/18/97	--	--													NA		--				--		--

Notes: Measurements of LNAPL thickness were made using a product interface meter.
A blank cell indicates that the well was not monitored.
--: Well was monitored but no LNAPL was detected.
Trace: The LNAPL thickness was not sufficient to trigger the interface probe but visual observation of the probe indicated LNAPL in the well.
NA : Well not accessible
WA: Well was sealed in March 1996

882420038

TABLE G2: LNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (LNAPL)	MW-8 (LNAPL)	MW-23 (LNAPL)	RW1-1 (LNAPL)	RW 6-1 (LNAPL)	RW7-4 (LNAPL)	RW7-5 (LNAPL)	CW-7 (LNAPL)	CW-12 (LNAPL)	CW-15 (LNAPL)	CW-16 (LNAPL)	MW-17 (LNAPL)	RW 15-1 (LNAPL)	TOTAL VOL RECOV/ ROUND
Approximately 190 gallons of LNAPL had been collected from September 1990 until October 1993.															
1	10/20/94								<0.1						<0.1
2	10/27/94								<0.1						<0.1
3	11/3/94								<0.1						<0.1
4	11/8/94								<0.1						<0.1
5	11/22/94								<0.1						<0.1
6	12/7/94								<0.1						<0.1
7	12/21/94								<0.1						<0.1
8	1/6/95								<0.1						<0.1
9	1/16/95								<0.1						<0.1
10	1/30/95								<0.1						<0.1
11	2/17/95								<0.1						<0.1
12	2/27/95								<0.1						<0.1
13	3/14/95								<0.1						<0.1
14	3/28/95								<0.1						<0.1
15	4/10/95								<0.1						<0.1
16	4/26/95								<0.1						<0.1
17	5/10/95								<0.1						<0.1
18	5/22/95								<0.1						<0.1
19	6/6/95								<0.1						<0.1
20	6/20/95								<0.1						<0.1
21	6/28/95								0.4						0.4
22	7/5/95	P/NI							<0.1						<0.1
23	7/12/95	--		P/NI	P/NI				<0.1	P/NI		P/NI			<0.1
24	7/20/95	0.2		--	--				<0.1	--		--			0.2
25	7/26/95	0.2		--	--				<0.1	--		--			0.2
26	8/2/95	0.2		--	--				0.1	--		--			0.3
27	8/10/95	0.8		--	--		P/NI		0.2	--		--			1.0
28	8/17/95	0.2		--	--		--		0.1	--		--			0.3
29	8/23/95	0.2	P/NI	--	--		--		--	<0.1		--			0.2
30	8/31/95	0.5	--	--	--	P/NI	--	P/NI	<0.1	--	P/NI	--			0.5
31	9/1/95	0.5	--	--	--	--	--	--	--	--	--	--			0.5
32	9/5/95	0.5	--	--	--	--	--	--	--	--	--	--			0.5
33	9/6/95-9/7/95	0.2	--	--	--	--	--	--	--	--	--	--			0.2
34	9/13/95-9/15/95	1.5	--	--	--	--	--	--	--	--	--	--			1.5
35	9/20/95	0.8	--	--	--	--	--	--	<0.1	--	--	--			0.8
36	9/26/95	0.5	--	--	--	--	--	--	--	--	--	--			0.5
37	10/5/95	0.2	--	--	--	--	--	--	<0.1	--	--	--			0.2
38	10/10/95-10/12/95	0.1	--	--	--	--	--	--	--	--	--	--	P/NI		0.1
39	10/18/95	0.1	--	--	--	--	--	--	--	--	--	--	--	P/NI	0.1
40	10/27/95	<0.1	--	--	--	--	--	--	<0.1	--	--	--	--	--	<0.1

88420039

GEO ENGINEERING

July 1997

TABLE G2: LNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (LNAPL)	MW-8 (LNAPL)	MW-23 (LNAPL)	RW1-1 (LNAPL)	RW 6-1 (LNAPL)	RW7-4 (LNAPL)	RW7-5 (LNAPL)	CW-7 (LNAPL)	CW-12 (LNAPL)	CW-15 (LNAPL)	CW-16 (LNAPL)	MW-17 (LNAPL)	RW 15-1 (LNAPL)	TOTAL VOL RECOV/ ROUND
Approximately 190 gallons of LNAPL had been collected from September 1990 until October 1993.															
41	11/2/95	<0.1	--	--	--	--	--	--	--	--	--	--	--	--	<0.1
42	11/9/95	<0.1	--	--	--	--	--	--	--	--	--	--	--	--	<0.1
43	11/16/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
44	11/22/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
45	11/30/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
46	12/7/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
47	12/15/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
48	12/19/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
49	12/29/95	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
50	1/4/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
51	1/17/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
52	1/23/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
53	2/2/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
54	2/13/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
55	2/21/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
56	2/29/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
57	3/14/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
58	3/19/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
59	3/26/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
60	4/17/96	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0
61	5/15/96	--	--	--		--	--			--		--			0.0
62	6/13/96	--	--	--		--	--			--		--			0.0
63	7/11/96	--	--	--	--	--	--	--	--	--		--	--	--	0.0
64	7/19/96								0.1						0.1
65	7/25/96								--						0.0
66	8/2/96								--						0.0
67	8/9/96								--						0.0
68	8/16/96								0.3						0.3
69	8/21/96								0.1						0.1
70	8/29/96	--	--	--		--	--		--	--		--	--	--	0.0
71	9/6/96								--						0.0
72	9/12/96								--						0.0
73	9/20/96								--						0.0
74	9/23/96	--	--			--	--		--	--		--			0.0
75	10/9/96	--	--	--	--	--	--	--	--	--		--	--	--	0.0
76	11/25/96	--	--		--	NA	--		--	--		--			0.0
77	12/23/96	--	--		--	NA	--			--		--			0.0
78	1/14/97	--	--	--	--	NA	--	--	--	--		--	--	--	0.0
79	2/4/97	--	--		--	NA	--		--	--		--			0.0
80	3/7/97	--	--		--	NA	--		--	--		--			0.0

TABLE G2: LNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (LNAPL)	MW-8 (LNAPL)	MW-23 (LNAPL)	RW1-1 (LNAPL)	RW 6-1 (LNAPL)	RW7-4 (LNAPL)	RW7-5 (LNAPL)	CW-7 (LNAPL)	CW-12 (LNAPL)	CW-15 (LNAPL)	CW-16 (LNAPL)	MW-17 (LNAPL)	RW 15-1 (LNAPL)	TOTAL VOL RECOV/ ROUND
Approximately 190 gallons of LNAPL had been collected from September 1990 until October 1993.															
81	4/28/97	--	--	--	--	NA	--	--	--	--		--	--	--	0.0
82	5/15/97	--	--		--	NA	--		--	--		--			0.0
83	6/18/97	--	--		--	NA	--		--	--		--			0.0
TOTAL VOLUME RECOVERED		**6.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**8.0**

Notes:

All quantities are rounded to the nearest 0.1 gallons.

For product recovery purposes,quantities greater than 0.1 gallons (approx. 1 cup) are considered to be measurable. Quantities less than 1 cup are defined as "<0.1" and are not included in totals. It is not practicable to separate product from mixture of water and product when quantity is les than 1 cup.

A blank cell indicates that the well was not monitored.

--: Well was monitored but did not indicate recoverable amount of LNAPL

P/NI: Absorbent pad installed on this date for LNAPL recovery from the well.

NA: Well not accessible.

88242041

TABLE G3: LNAPL ANALYSES

Sample From: / Date: / Parameters	CW-7 LNAPL Jun-91 ug/L	Unknown LNAPL Oct-91 ug/Kg	LNAPL Composite Jan-96 ug/Kg	CW-7 LNAPL May-96 ug/Kg
Targeted Volatile Organics				
Dichloromethane	--	36,000	--	--
Ethylbenzene	--	--	--	--
Tetrachloroethene	--	420,000	--	--
Toluene	346,256	40,000	2,000,000	96,000
Chlorobenzene	--	--	1,000,000	260,000
Ethylbenzene	--	49,000	120,000	150,000
Xylenes (Total)	--	--	1,200,000	300,000
Methylene Chloride	340,295	--	--	--
Non-Targeted Volatile Organics				
Trimethylbenzene Isomer			32,800,000	
Ethylmethylbenzene Isomer			33,000,000	
C10H14 Aromatic			17,400,000	
Ethyldimethylbenzene Isomer			16,700,000	
C9H18 Cycloalkane			9,400,000	
PCBs				
Aroclor 1242	16,252	120,000	--	2,170,000 (ug/L)

Notes:

-- = Not Detected at the Method Detection Limit.

Table G4: DNAPL Measurements.

The measurements of thickness of DNAPL layer are in feet

Date	RW7-1	RW7-2	RW7-3	RW7-4	RW7-5	RW6-1	MW-6	MW-8	MW-26	MW-27	CW-12	CW-15	CW-16	PB-2
8/28/90	5.00	Trace	Trace	4.00	4.50					Trace		Trace	Trace	
6/7/91	--	--	Trace	2.50			0.20	0.50		Trace		--	--	
8/6/91				0.73			1.20	1.58						
9/25/91					4.17									
9/26/91					3.90									
9/27/91					3.73									
9/28/91					3.57									
10/3/91					3.40									
10/10/91					3.35									
10/15/91	--			0.95			1.23	1.56						
10/21/91				0.75			0.38	0.49				--	--	
10/28/91		--	--											
3/18/92	--	--	--	0.33	--		1.44	0.65				--	--	
3/11/93		--	--	--		--	1.30	1.42		--		--	2.45	
4/7/93		--	--	--		Trace	1.30	1.42		--				
7/6/93		--	--	--		--	1.14	1.49		--			2.49	
8/20/93		--	--	--		Trace	1.49	1.47		--		--	2.50	
9/30/93		--	--	--		--	1.28	--		--		--	--	
10/21/93		--	--	--		--	1.28	--		--		--	--	
5/17/94	--	--	--	--	--		Trace	0.58		--			0.83	
6/23/94		--	--	--	--		0.92	0.60					0.91	
7/22/94				0.44	--		0.96	0.67					0.91	
10/5/94	0.16	--	--	0.56	--	Trace	0.92	0.40	1.40	--			0.79	
11/9/94	0.11			Trace		0.08	Trace	Trace	--		0.32		Trace	
12/9/94	Trace			Trace		Trace	0.18	Trace	--		Trace		--	
1/9/95	0.21	--	--	Trace	--		0.14	Trace	Trace	--	Trace	--	Trace	
2/17/95	0.12			Trace			0.11	Trace	0.23				--	
3/14/95	0.14			Trace			0.05	Trace	Trace		Trace		Trace	
4/10/95	Trace	--	--	0.44	Trace	0.22	Trace	Trace	0.24	--	0.18		Trace	
5/10/95	Trace			Trace		--	Trace	Trace	--		Trace			
6/6/95	0.20			Trace	Trace		Trace	Trace	Trace		Trace		Trace	
7/6/95	Trace	--	--	Trace	Trace	Trace	--	Trace	Trace	--	Trace		Trace	
8/10/95	Trace			Trace	--	Trace	--	Trace	0.60		Trace		Trace	
8/31/95	Trace			Trace	--	Trace	Trace	Trace	0.21		Trace	0.58	Trace	
9/15/95	Trace			Trace	--	Trace	--	Trace	Trace		Trace		Trace	
10/10/95	Trace	--	--	Trace	--	Trace	1.06	Trace	Trace	--	Trace	Trace	Trace	
11/9/95	0.21			Trace	--	Trace	0.42	Trace	--		Trace	Trace	Trace	
12/7/95	--			Trace	--	Trace	Trace	Trace	--		Trace		Trace	
1/23/96	--	--	--	--	--	Trace	0.85	--	--	--	Trace		Trace	
2/21/96	Trace			Trace		Trace	Trace	Trace	--		Trace		Trace	

Table G4: DNAPL Measurements.

The measurements of thickness of DNAPL layer are in feet

Date	RW7-1	RW7-2	RW7-3	RW7-4	RW7-5	RW6-1	MW-6	MW-8	MW-26	MW-27	CW-12	CW-15	CW-16	PB-2
3/14/96	Trace			Trace		Trace	Trace	Trace	--		Trace		Trace	
4/17/96	Trace	--	--	Trace	--	Trace	0.87	--	--	--	Trace		0.19	--
5/15/96	Trace			Trace		Trace	Trace	Trace			Trace		Trace	0.34
6/13/96	Trace			Trace		Trace	0.44	Trace			Trace		Trace	0.34
7/11/96	Trace	--	--	Trace	--	Trace	Trace	Trace	--	--	Trace		Trace	--
8/29/96	Trace			Trace		Trace	Trace	Trace			Trace			Trace
9/23/96	Trace			Trace		Trace	Trace	Trace			Trace		Trace	Trace
10/9/96	--	--	--	Trace	Trace	Trace	Trace	Trace	--	--	Trace		Trace	Trace
11/25/96	Trace			Trace	--	NA	0.61	Trace			Trace		Trace	Trace
12/23/96	Trace			Trace	--	NA	Trace	Trace			Trace		Trace	Trace
1/14/97	--	--	--	Trace	--	NA	0.13	--	--	--	0.15		0.18	0.48
2/4/97	Trace			Trace		NA	0.49	Trace			Trace		0.13	0.44
3/7/97	--			Trace		NA	Trace	Trace			Trace		Trace	0.22
4/28/97	--	--	--	--	--	NA	Trace	Trace	--	--	Trace		--	--
5/15/97	--			Trace		NA	0.17	Trace			Trace		Trace	--
6/18/97	--			Trace		NA	0.19	Trace			Trace		Trace	--

Notes: Measurements of DNAPL thickness were made using a product interface meter.
A blank cell indicates that well was not monitored.
--: Not Detected
Trace: The DNAPL thickness was not sufficient to trigger the interface probe but visual observation of the probe indicated DNAPL in the well.
NA: Well not accessible

TABLE G5: DNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (DNAPL)	MW-8 (DNAPL)	MW-26 (DNAPL)	RW6-1 (DNAPL)	RW7-1 (DNAPL)	RW7-4 (DNAPL)	RW7-5 (DNAPL)	CW-12 (DNAPL)	CW-15 (DNAPL)	CW-16 (DNAPL)	PB-2 (DNAPL)	TOTAL VOL RECOV/ ROUND
Refer to notes for recovery data for DNAPL prior to October 1994.													
1	10/20/94	0.4	0.5	0.1			<0.1				0.1		1.1
2	10/27/94	0.1	0.4	<0.1			--				0.1		0.6
3	11/3/94	0.4	0.1	--			<0.1				<0.1		0.5
4	11/8/94	0.4	<0.1	--			<0.1				--		0.4
5	11/22/94	0.1	<0.1	--			--		0.4		--		0.5
6	12/7/94	1.2	--	--			--		0.2		--		1.4
7	12/21/94	0.5	--	--			--		<0.1		--		0.5
8	1/6/95	0.2											0.2
9	1/16/95	0.2				<0.1							0.2
10	1/30/95	0.4											0.4
11	2/17/95	0.2		<0.1		<0.1							0.2
12	2/27/95	0.1		<0.1									0.1
13	3/14/95	0.2				<0.1							0.2
14	3/20/95	0.1											0.1
15	3/28/95	0.1											0.1
16	4/10/95	0.2		<0.1	<0.1		<0.1		<0.1				0.2
17	4/26/95	0.8											0.8
18	4/28/95	0.1											0.1
19	5/1/95	0.1											0.1
20	5/10/95	0.1											0.1
21	5/22/95	0.2											0.2
22	6/6/95	0.1				<0.1							0.1
23	6/20/95	0.1									0.1	Instld 6/13/95	0.2
24	6/28/95	0.1									<0.1	0.1	0.2
25	7/5/95	0.1											0.1
26	7/12/95	0.1										0.2	0.3
27	7/20/95	0.1										0.2	0.3
28	7/26/95	0.1										0.1	0.2
29	8/2/95	0.1										0.1	0.2
30	8/10/95	0.1		0.1								0.1	0.3
31	8/17/95	0.1		<0.1								0.1	0.2
32	8/23/95	<0.1	<0.1	0.1	0.1	0.1	<0.1	--	0.1		<0.1	0.1	0.5
33	8/30/95									0.5			0.5
34	8/31/95	0.1	<0.1	0.1	<0.1	0.1	<0.1	--	<0.1	<0.1	<0.1	<0.1	0.3
35	9/6/95	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--	<0.1	<0.1	<0.1	0.1	0.2
36	9/13/95	<0.1	<0.1	<0.1	--	<0.1	<0.1	--	<0.1	0.2	<0.1	0.1	0.3
37	9/20/95	--		<0.1		<0.1				<0.1		0.1	0.1

882420045

TABLE G5: DNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (DNAPL)	MW-8 (DNAPL)	MW-26 (DNAPL)	RW6-1 (DNAPL)	RW7-1 (DNAPL)	RW7-4 (DNAPL)	RW7-5 (DNAPL)	CW-12 (DNAPL)	CW-15 (DNAPL)	CW-16 (DNAPL)	PB-2 (DNAPL)	TOTAL VOL RECOV/ ROUND
38	9/26/95	<0.1								--		<0.1	<0.1
39	10/5/95	0.2										0.1	0.3
40	10/10/95	1.1								--		0.1	1.2
41	10/18/95	0.5								0.1		0.1	0.7
42	10/27/95	0.2								<0.1		0.1	0.3
43	11/2/95	0.6								--			0.6
44	11/9/95	0.5	<0.1	--	--	0.1	--	--	--	<0.1	--	0.1	0.7
45	11/16/95	0.5				<0.1						0.1	0.6
46	11/22/95	0.5				--						0.1	0.6
47	11/30/95	--				<0.1							<0.1
48	12/7/95	0.1	--	--	--	--	--	--	--	--	0.1	0.1	0.3
49	12/15/95	--									<0.1	0.1	0.1
50	12/19/95	--									--	0.1	0.1
51	12/29/95	--									--	0.1	0.1
52	1/4/96	--										0.1	0.1
53	1/17/96	--											0.0
54	1/23/96	--	--	--	--	--	--	--	--		--	--	0.0
55	2/2/96	0.6											0.6
56	2/13/96	--											0.0
57	2/21/96	--	--		--	--	--		--		--		0.0
58	2/29/96	--										0.2	0.2
59	3/14/96	--	--		--	--	--		--		--	0.1	0.1
60	3/19/96	--										0.1	0.1
61	3/26/96	--										0.2	0.2
62	4/3/96	0.1										0.1	0.2
63	4/12/96	<0.1										0.1	0.1
64	4/17/96	0.5	--	--	--	--	--	--	--		--	--	0.5
65	4/25/96	0.2									0.1	0.1	0.4
66	5/2/96	0.1									<0.1	0.1	0.2
67	5/10/96	--	--								--	0.1	0.1
68	5/15/96	--	--		--	--	--		--		--	0.1	0.1
69	5/21/96	--									--	0.1	0.1
70	5/31/96	--									--	0.1	0.1
71	6/13/96	0.1	--		--	--	--		--		--	0.1	0.2
72	6/20/96	0.1										--	0.1
73	6/26/96	--										--	0.0
74	7/3/96	--										--	0.0
75	7/11/96	--	--	--	--	--	--	--	--		--	--	0.0
76	7/19/96	0.4							<0.1		--	--	0.4
77	7/25/96	--							--		--	--	0.0

TABLE G5: DNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (DNAPL)	MW-8 (DNAPL)	MW-26 (DNAPL)	RW6-1 (DNAPL)	RW7-1 (DNAPL)	RW7-4 (DNAPL)	RW7-5 (DNAPL)	CW-12 (DNAPL)	CW-15 (DNAPL)	CW-16 (DNAPL)	PB-2 (DNAPL)	TOTAL VOL RECOV/ ROUND
78	8/2/96	0.2											0.2
79	8/9/96	--							--		--	--	0.1
80	8/16/96	--							--		--	0.1	0.1
81	8/21/96	--							--		--	--	0.0
82	8/29/96	--	--		--	--	--		--		--	--	0.0
83	9/6/96	--							--		--	--	0.0
84	9/12/96	--							--		--	--	0.0
85	9/20/96	--							--		--	--	0.0
86	9/23/96	--	--		--	--	--		--			--	0.0
87	10/9/96	--	--	--	--	--	--	--	--		--	--	0.0
88	11/25/96	0.5	--		NA	--	--	--	--		--	--	0.0
89	12/6/96	1.1				--	--	--	--		--	--	0.5
90	12/13/96	0.7											1.1
91	12/20/96	0.3											0.7
92	12/23/96	--	--		NA	--	--	--	--		--	--	0.3
93	1/3/97	--											0.0
94	1/9/97	--											0.0
95	1/14/97	*	--	--	NA	--	--	--	--		--	--	0.0
96	1/22/97	*							--		*	*	0.0
97	1/31/97	0.2							--		0.2	--	0.4
98	2/4/97	*	--		NA	--	--		--		*	*	0.0
99	2/7/97	0.5							--		--	--	0.5
100	2/13/97	0.3											0.3
101	2/19/97	0.3											0.3
102	2/28/97	--											0.0
103	3/7/97	--	--		NA	--	--		--		--	--	0.0
104	3/11/97	--							--		--	--	0.0
105	3/17/97	0.1											0.1
106	3/26/97	--											0.0
107	4/10/97	0.2											0.2
108	4/16/97	--											0.0
109	4/24/97	0.2											0.2
110	4/28/97	--	--	--	NA	--	--	--	--		--	--	0.0
111	5/5/97	--											0.2
112	5/15/97	0.1											0.0
113	5/21/97	--										--	0.0
114	5/30/97	--										--	0.1
												--	0.0
												--	0.0

882420047

TABLE G5: DNAPL RECOVERY DATA

All Quantities Expressed in Gallons

RECOVERY ROUND	DATE	MW-6 (DNAPL)	MW-8 (DNAPL)	MW-26 (DNAPL)	RW6-1 (DNAPL)	RW7-1 (DNAPL)	RW7-4 (DNAPL)	RW7-5 (DNAPL)	CW-12 (DNAPL)	CW-15 (DNAPL)	CW-16 (DNAPL)	PB-2 (DNAPL)	TOTAL VOL RECOV/ ROUND
115	6/4/97	*	--		NA	--	--		--		--	--	0.0
116	6/10/97	--	--			--	--		--		--	--	0.0
117	6/18/97	--	--		NA	--	--		--		--	--	0.0
116	6/26/97	0.1										--	0.1
TOTAL VOLUME RECOVERED		18.4	1.0	0.4	0.1	0.3	0.0	0.0	0.7	0.8	0.7	4.1	26.5

Notes:

All quantities are rounded to the nearest 0.1 gallons.

For product recovery purposes,quantities greater than 0.1 gallons (approx. 1 cup) are considered to be measurable. Quantities less than 1 cup are defined as "<0.1" and are not included in totals. It is not practicable to separate product from mixture of water and product when quantity is les than 1 cup.

A blank cell indicates that the well was not monitored.

--: Well was monitored but did not indicate recoverable amount of DNAPL

NA: Well not accessible.

*: Product recovery could not be performed due to pump-malfunction.

Recovery of DNAPL prior to October 1994 is summarized in the table below

Cumulative Total DNAPL recovered (gallons)	From Sept. 1990 Until
1000	Feb.-91
1200	Jul.-91
1270	Apr.-92
1275	May-92
1285	Aug.-92
1290	Oct.-92
1300	Aug.-93
1310	Oct.-93

882420048

TABLE G6: DNAPL ANALYSES

Date:	8/1/88		11/3/94	2/13/96	
Sample From:	DNAPL in MW-6		DNAPL in MW-26	H-7 (DNAPL Collection Tank)	
Parameters	ug/L		ug/Kg	ug/Kg	
Targeted Volatile Organics					
Methylene Chloride	16,000,000	B	13,000,000	4,000,000	
Chloroform	610,000		--	--	
1,1,1-Trichloroethane	5,100,000		24,000,000	4,800,000	
Carbon Tetrachloride	930,000		--	--	
Toluene	5,900,000		6,800,000	8,300,000	
Tetrachloroethene	47,000,000		140,000,000	81,000,000	
Chlorobenzene	50,000,000		99,000,000	79,000,000	
Ethylbenzene	330,000		--	490,000	J
1,2-Dichlorobenzene	660		1,900,000	25,000,000	*
1,1,2-Trichloroethane	220,000		--	--	
1,1-Dichloroethene	160,000		--	--	
1,2-Dichloroethane	38,000,000		--	11,000,000	
Trichloroethene	9,300,000		--	10,000,000	
1,1,2,2-Tetrachloroethane	760,000		--	--	
cis-1,2-Dichloroethene	--		--	310,000	J
Xylene (Total)	--		--	840,000	
Non-Targeted Volatile Organics					
Unknown Alkane			4,700,000		
(2-bromoethyl) Benzene				240,000,000	
PCBs					
Aroclor 1242	--		--	9,100,000	

Notes:

B = Compound also detected in the Method Blank
J = Estimated Concentration
-- = Not Detected at Method Detection Limit
* = Detected as Non-Targeted Volatile Organic Compound

Attachment H

Hydrogeology

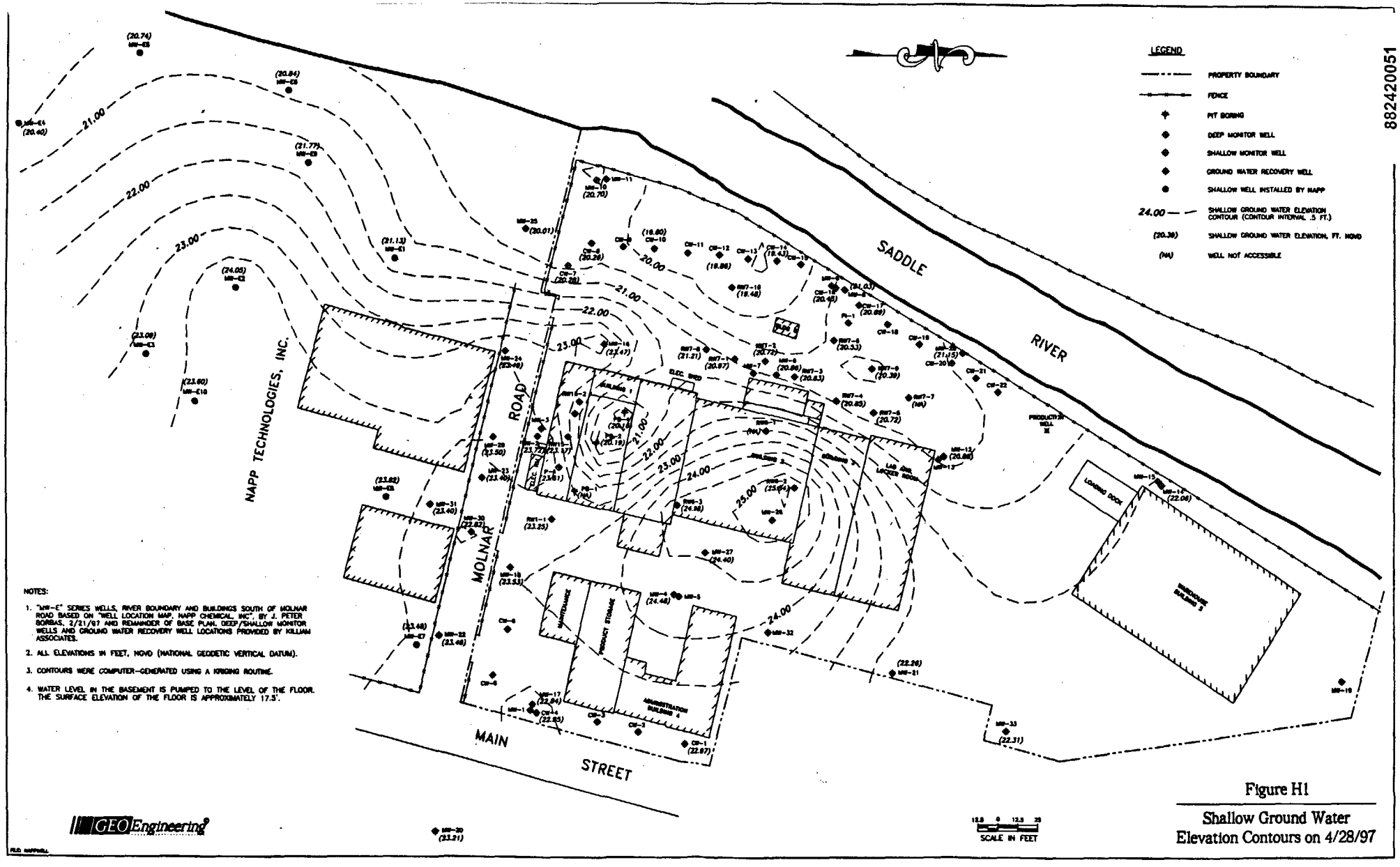


Figure H1

Shallow Ground Water Elevation Contours on 4/28/97

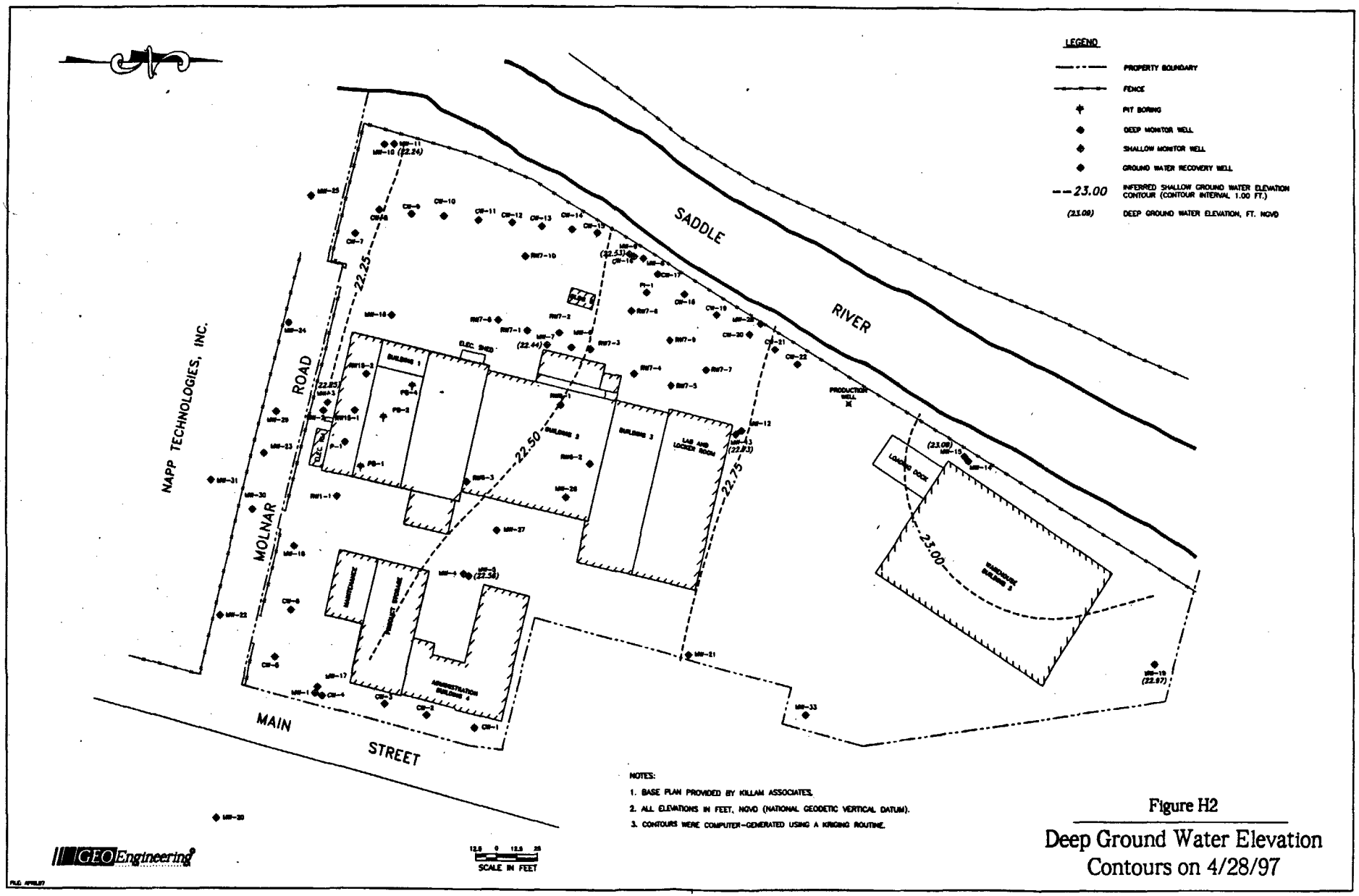


Figure H2

Deep Ground Water Elevation Contours on 4/28/97

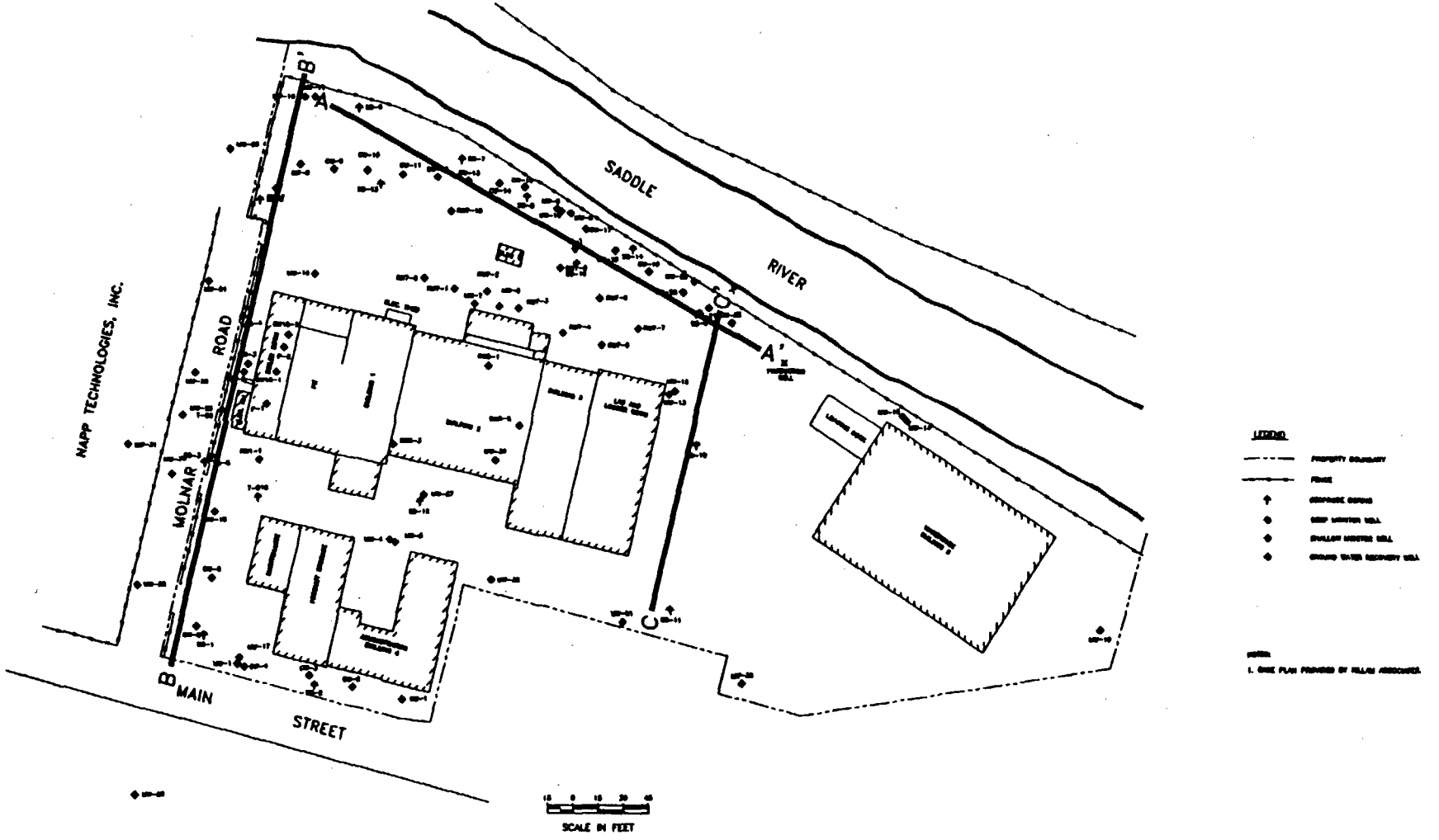


Figure H3

Cross-Section Locations

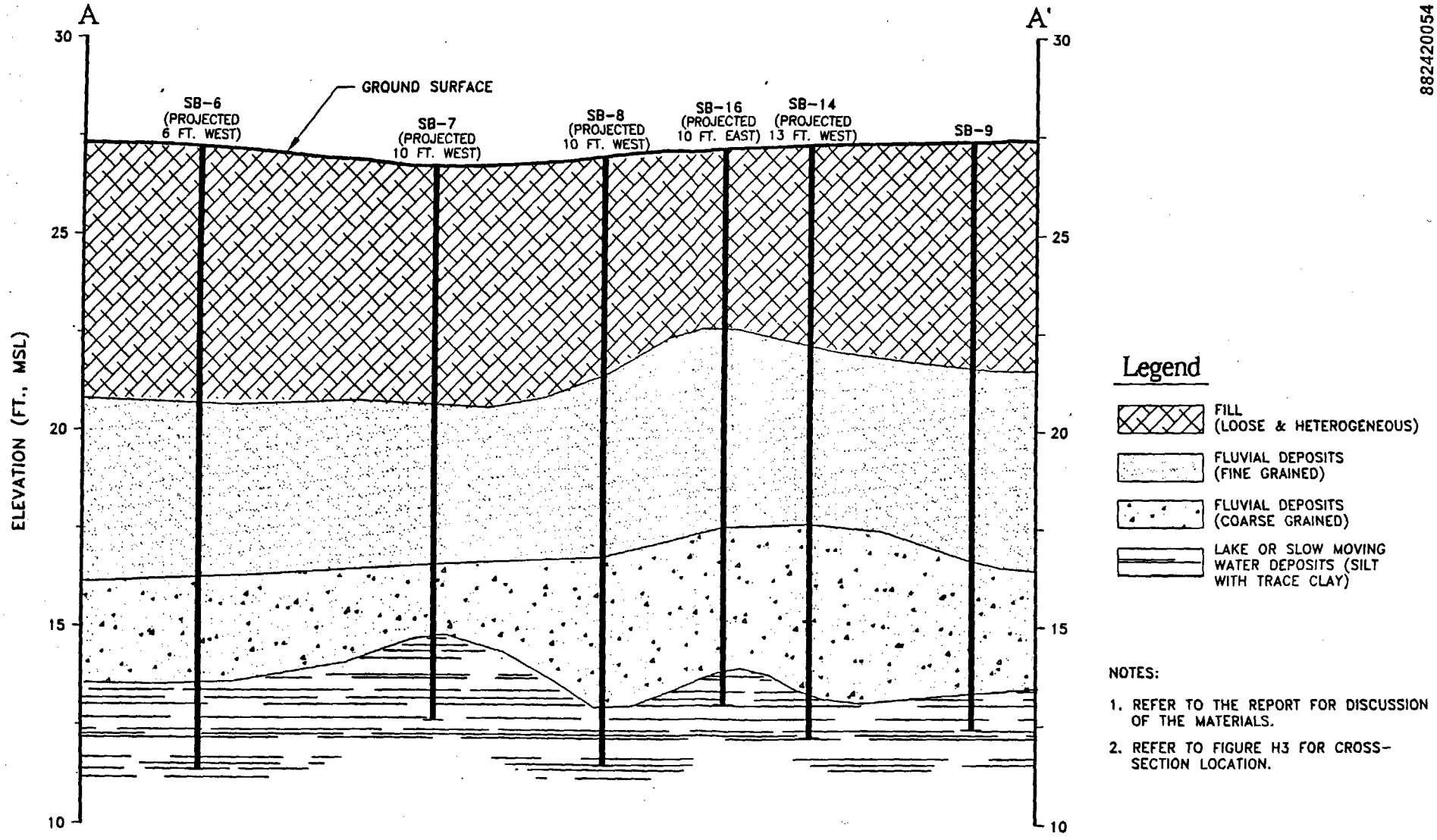


Figure H4

SECTION A-A'

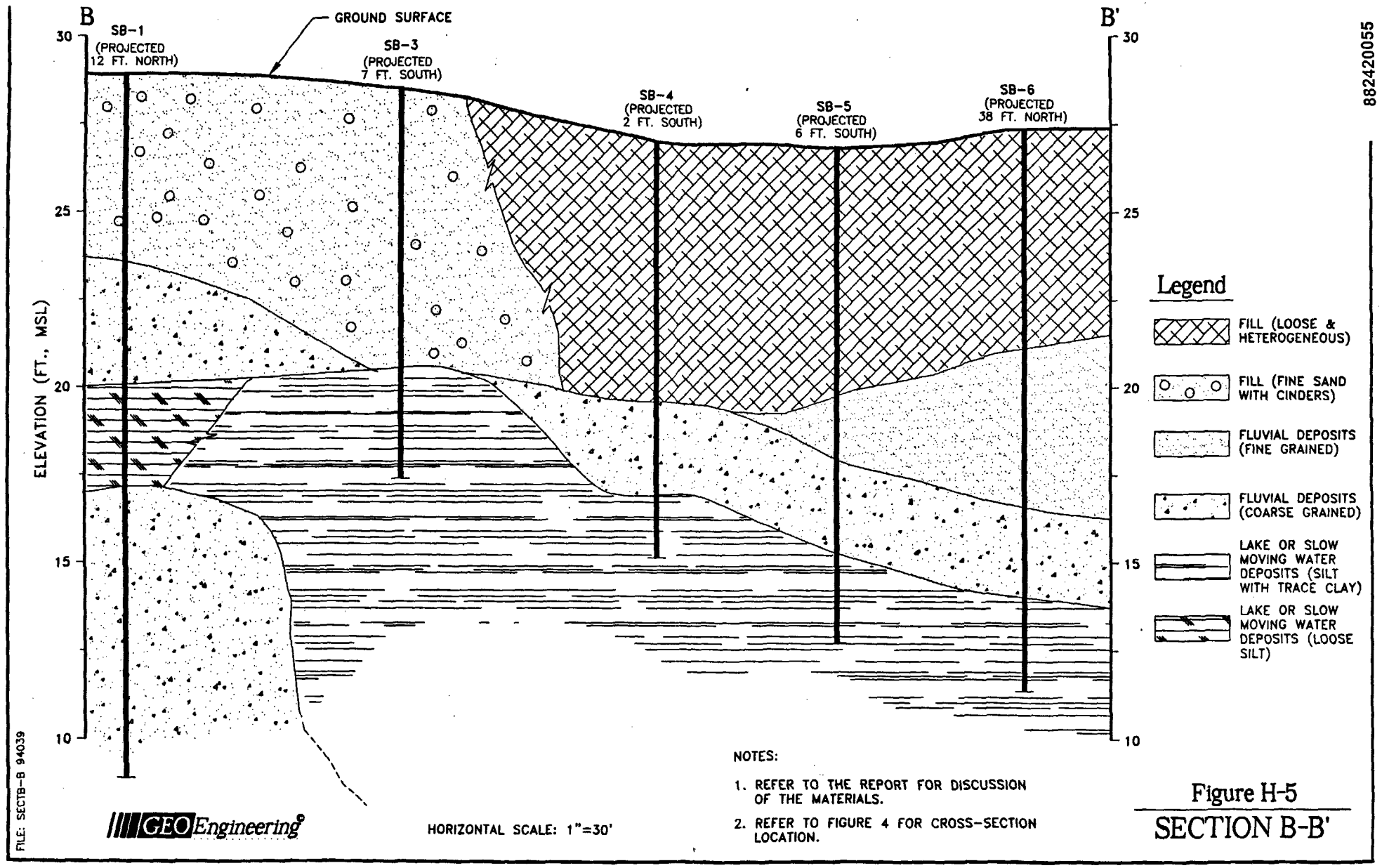
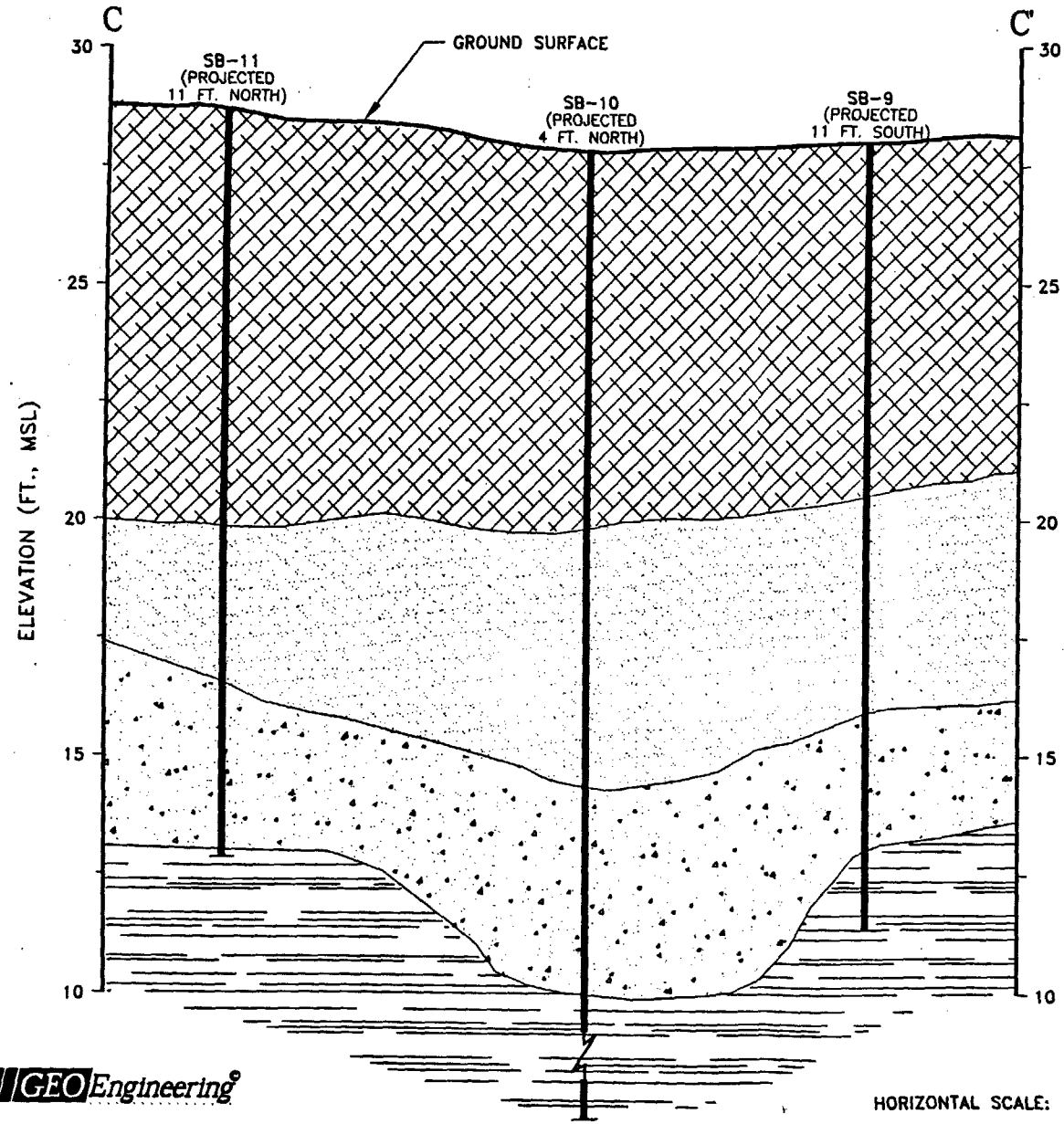


Figure H-5

SECTION B-B'



Legend

- FILL (LOOSE & HETEROGENEOUS)
- FLUVIAL DEPOSITS (FINE GRAINED)
- FLUVIAL DEPOSITS (COARSE GRAINED)
- LAKE OR SLOW MOVING WATER DEPOSITS (SILT WITH TRACE CLAY)

NOTES:

1. REFER TO THE REPORT FOR DISCUSSION OF THE MATERIALS.
2. REFER TO FIGURE H3 FOR CROSS-SECTION LOCATION.

GEO Engineering

FILE: SECTC-C 94039

Figure H6

SECTION C-C'